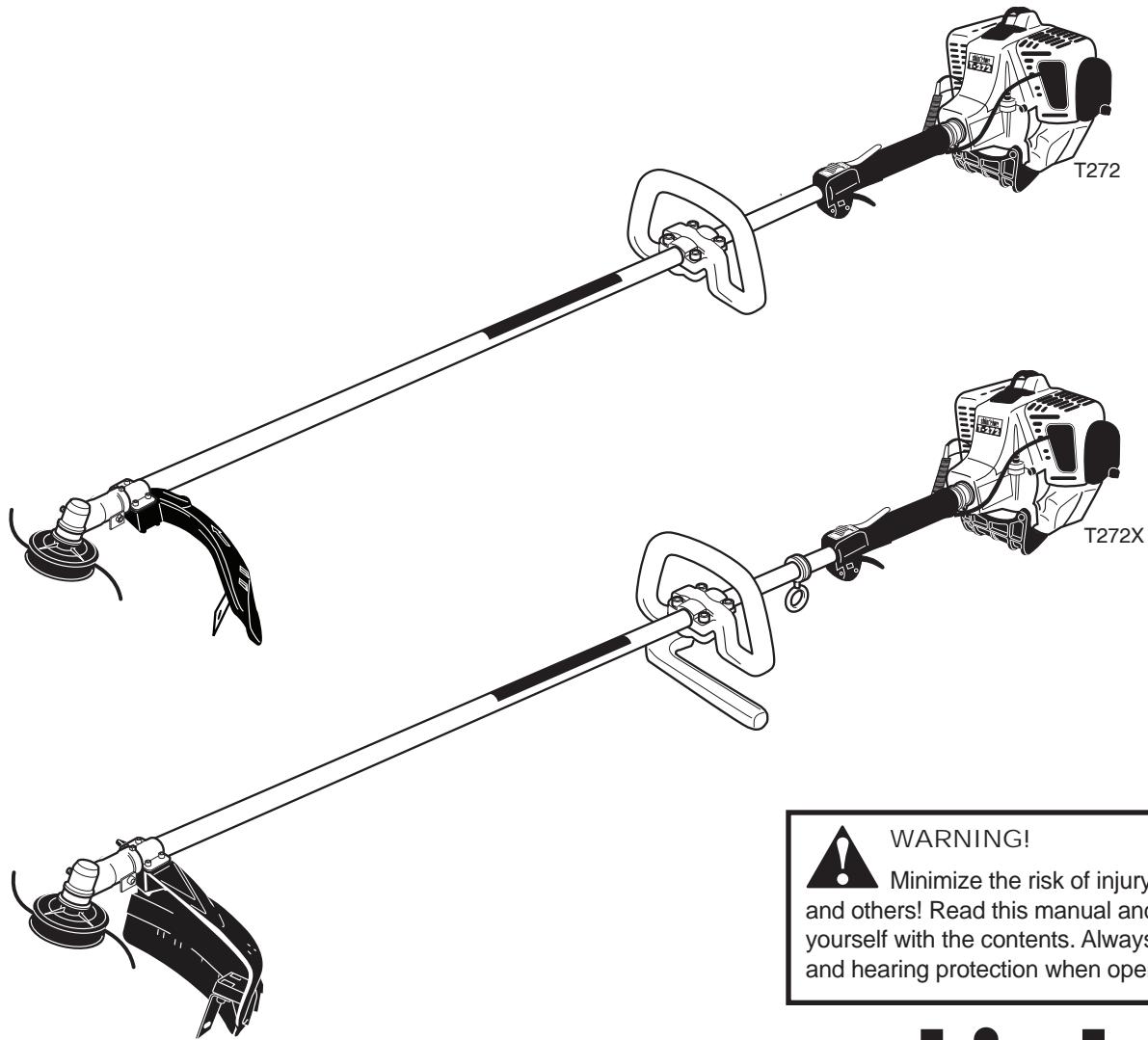


SHINDAIWA OWNER'S/OPERATOR'S MANUAL

# T272/EVC TRIMMER T272X/EVC TRIMMER



## WARNING!

Minimize the risk of injury to yourself and others! Read this manual and familiarize yourself with the contents. Always wear eye and hearing protection when operating this unit.

**shindaiwa®**

Part Number 81606 Rev 11/06

## Introduction

The Shindaiwa 272-series hand-held Power Equipment has been designed and built to deliver superior performance and reliability without compromise to quality, comfort, or durability.

Shindaiwa high performance engines represent the leading edge of 2-cycle engine technology, delivering exceptionally high power from remarkably low displacement and weight. As an owner/operator, you'll soon discover for yourself why Shindaiwa is simply in a class by itself!

### IMPORTANT!

The information contained in this manual describes units available at the time of publication.

While every attempt has been made to give you the very latest information about your Shindaiwa product, there may be some differences between your 272-series unit and what is described here. Shindaiwa Inc. reserves the right to make changes to products without prior notification, and without obligation to make alterations to units previously manufactured.



### WARNING!

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## Attention Statements

Throughout this manual are special "attention statements".



### WARNING!

A statement preceded by the triangular attention symbol and the word "WARNING" contains information that should be acted upon to prevent serious bodily injury.



Read and follow this operators manual. Failure to do so could result in serious injury.



Wear eye and hearing protection at all times during the operation of this unit.



Keep bystanders at least 50 feet (15 m) away during operation.



Beware of thrown or ricocheted objects.



Do not operate this unit with a blade unless the unit is equipped with a Shindaiwa-approved handlebar or barrier.



Always wear a harness when operating this unit with a blade. A harness is also recommended when using trimmer line.



If unit is used as a brushcutter, beware of blade thrust. A jammed blade can cause the unit to jerk suddenly and may cause the operator to lose control of the unit.

### CAUTION!

A statement preceded by the word "CAUTION" contains information that should be acted upon to prevent mechanical damage.

### IMPORTANT!

A statement preceded by the word "IMPORTANT" is one that possesses special significance.

### NOTE:

A statement preceded by the word "NOTE" contains information that is handy to know and may make your job easier.

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### IMPORTANT!

The operational procedures described in this manual are intended to help you get the most from your unit, and to protect you and others from harm. These procedures are guidelines for safe operation under most conditions, and are not intended to replace any safety rules and/or laws that may be in force in your area. If you have questions regarding your 272-series unit, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you. You may also contact Shindaiwa, Inc. at the address printed on the back of this manual.

# General Safety Instructions

## Work Safely

Trimmers and brushcutters operate at very high speeds and can do serious damage or injury if they are misused or abused. *Never allow a person without training or instruction to operate your unit!*

## Stay Alert

You must be physically and mentally fit to operate this unit safely.



## WARNING! USE GOOD JUDGMENT

**ALWAYS** wear eye protection to shield against thrown objects.

**NEVER** operate the engine when transporting the unit.

**NEVER** operate the engine indoors! Make sure there is always good ventilation. Fumes from engine exhaust can cause serious injury or death.

**ALWAYS** clear your work area of trash or hidden debris that could be thrown back at you or toward a bystander.

**ALWAYS** use the proper cutting tool for the job.

**ALWAYS** stop the unit immediately if it suddenly begins to vibrate or shake.

Inspect for broken, missing or improperly installed parts or attachments.

**NEVER** extend trimming line beyond the length specified for your unit.

**ALWAYS** keep the unit as clean as practical. Keep it free of loose vegetation, mud, etc.

**ALWAYS** hold the unit firmly with both hands when cutting or trimming, and maintain control at all times.

**ALWAYS** keep the handles clean.

**ALWAYS** disconnect the spark plug wire before performing any maintenance work.

**ALWAYS**, if a blade should bind fast in a cut, shut off the engine immediately. Push the branch or tree to ease the bind and free the blade.

## Safety Labels

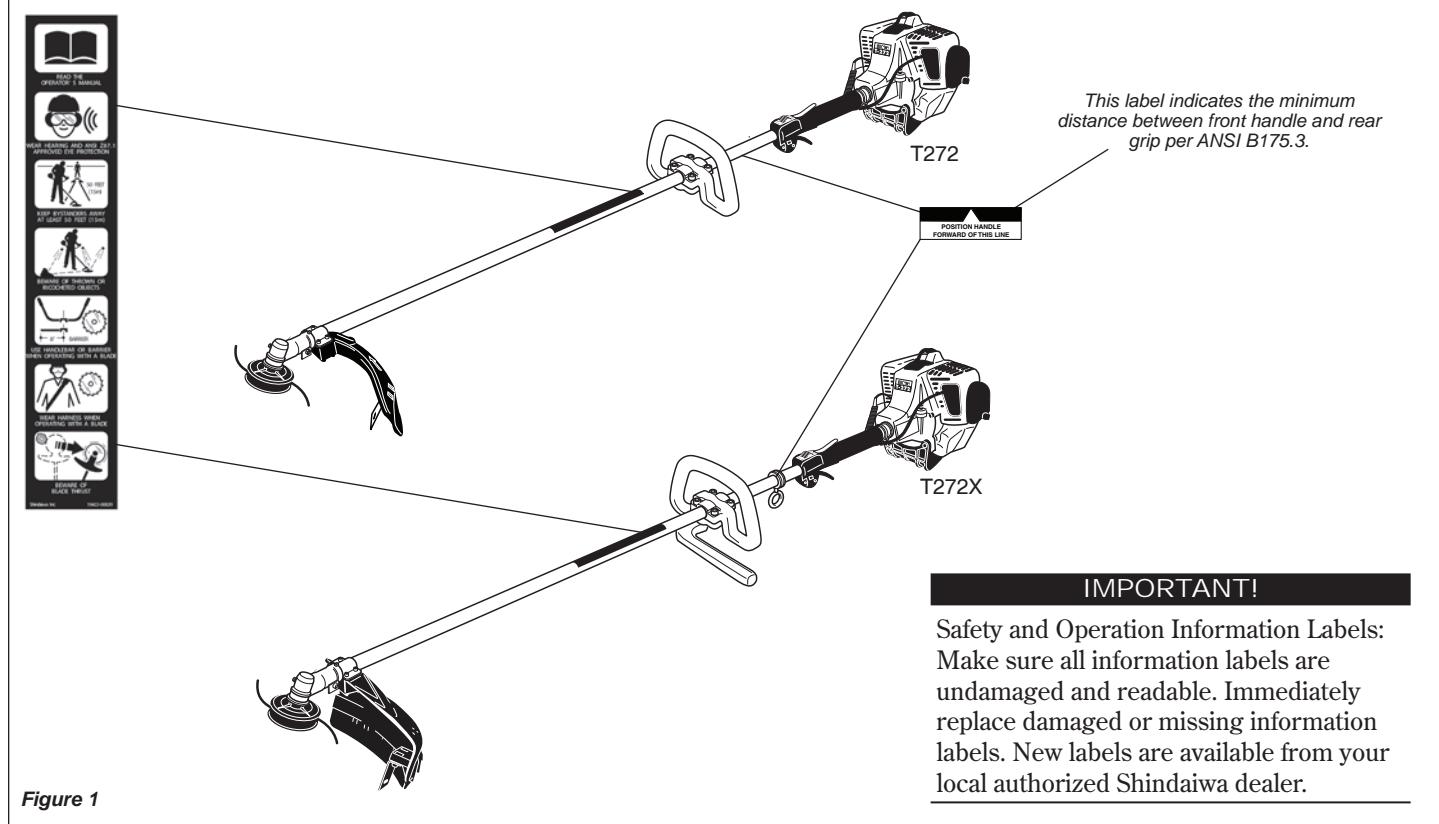


Figure 1

## The Properly Equipped Operator

*Wear close-fitting clothing to protect legs and arms. Gloves offer added protection and are strongly recommended. Do not wear clothing or jewelry that could get caught in machinery or underbrush.*  
**NEVER wear shorts!**

*Keep a proper footing and do not overreach—maintain your balance at all times during operation.*

*Wear appropriate footwear (non-skid boots or shoes): do not wear open-toed shoes or sandals. Never work barefooted!*

*Wear hearing protection devices and a broad-brimmed hat or helmet.*

*Always wear eye protection such as goggles or safety glasses.*

*Always wear a shoulder strap or a harness when operating a unit equipped with a blade.*

*Always operate with both hands firmly gripping the unit.*

*When operating with a blade, make sure the handle is positioned to provide you with maximum protection from contacting the blade.*

*Keep away from the rotating trimming line or blade at all times, and never lift a moving attachment above waist-high.*

*Always make sure the appropriate cutting attachment shield is correctly installed.*

Figure 2

## Be Aware of the Working Environment

*Avoid long-term operation in very hot or very cold weather.*

*Be extremely careful of slippery terrain, especially during rainy weather.*

*If contact is made with a hard object, stop the engine and inspect the cutting attachment for damage.*

*Be constantly alert for objects and debris that could be thrown either from the rotating cutting attachment or bounced from a hard surface.*

*Reduce the risk of bystanders being struck by flying debris. Make sure no one is within 50 feet (15 meters)—that's about 16 paces—of an operating attachment.*

**50 FEET**

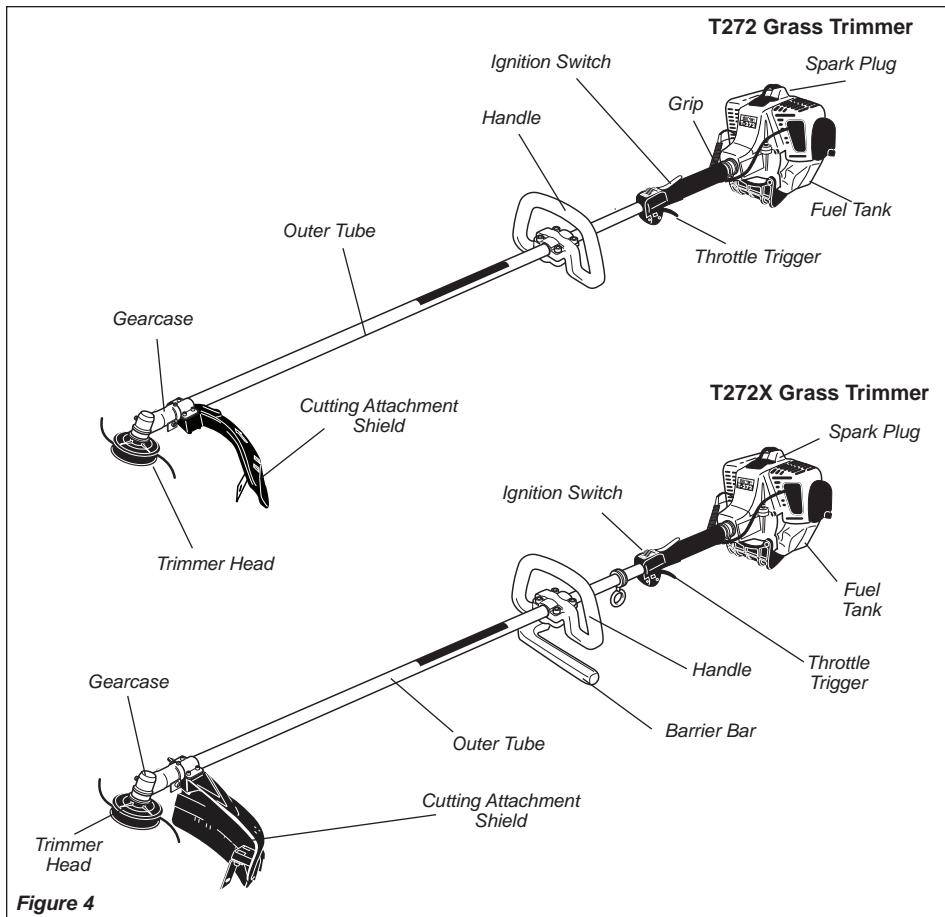
*Make sure bystanders or observers outside the 50-foot "danger zone" wear eye protection.*

*When operating in rocky terrain or near electric wires or fences, use extreme caution to avoid contacting such items with the cutting attachment.*

*Beware of a coasting blade when brushcutting or edging. A coasting blade can injure while it continues to spin after the throttle trigger is released or after the engine is stopped.*

Figure 3

## Product Description



Using the accompanying illustrations as a guide, familiarize yourself with your unit and its various components. Understanding your unit helps ensure top performance, long service life, and safer operation.



### WARNING!

Do not make unauthorized modifications or alterations to either of these units or their components.

**Figure 4**

## Specifications T272/T272X

|                                     |  |
|-------------------------------------|--|
| Engine Code                         | S272E Engine   |
| Dry weight, T272 (less attachment)  | 6.7kg/14.7 pounds  |
| Dry weight, T272X (less attachment) | 6.7kg/14.8 pounds  |
| Engine Type                         | 2-cycle, vertical cylinder, air cooled                   |
| Bore x Stroke                       | 34 mm x 30 mm/1.3 in. x 1.2 in.                          |
| Displacement                        | 27.2cc/1.7 cu. in.                                       |
| Maximum Power Output                | 1.1 kw/1.4 hp  |
| Operating rpm Range                 | 4,500-9,000 rpm (min <sup>-1</sup> )                     |
| Transmission Type                   | Automatic centrifugal clutch with bevel gears            |
| Fuel/Oil Ratio                      | 50:1 with ISO-L-EGD or JASO FC class 2-cycle mixing oil* |
| Fuel Tank Capacity                  | 670ml/22.6 ounces  |
| Carburetion                         | Walbro diaphragm-type                                    |
| Ignition                            | Fully electronic, transistor controlled                  |
| Spark Plug                          | Champion CJ8Y  |
| Air Cleaner Type                    | Non-reversible heavy-duty filter element                 |
| Starting Method                     | Recoil   |
| Stopping Method                     | Slide switch, grounding type                             |
| Handle                              | T272 Loop handle   |
| EPA Emission Compliance Period**    | T272X Loop handle with barrier bar                       |
|                                     | Category A   |

Specifications are subject to change without notice.

\* Shindaiwa One meets or exceeds these specifications and is recommended for all Shindaiwa Products

\*\* The EPA emission compliance referred to on the emission compliance label located on the engine, indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements. Category C = 50 hours (Moderate), B = 125 hours (Intermediate) and A = 300 hours (Extended).

# Assembly

## Prior to Assembly

This unit comes fully assembled with the exception of the cutting attachment shield and cutting attachment.

Before assembling, make sure you have all the components required for a complete unit and inspect unit and components for any damage.

- Engine and shaft assembly
- Cutting attachment shield
- Cutting attachment
- Kit containing cutting attachment shield bracket and hardware, this owner's/opertor's manual and tool kit for routine maintenance. Tool kits vary by model and may include a hex wrench set, spark plug/screwdriver combination wrench and a spanner.

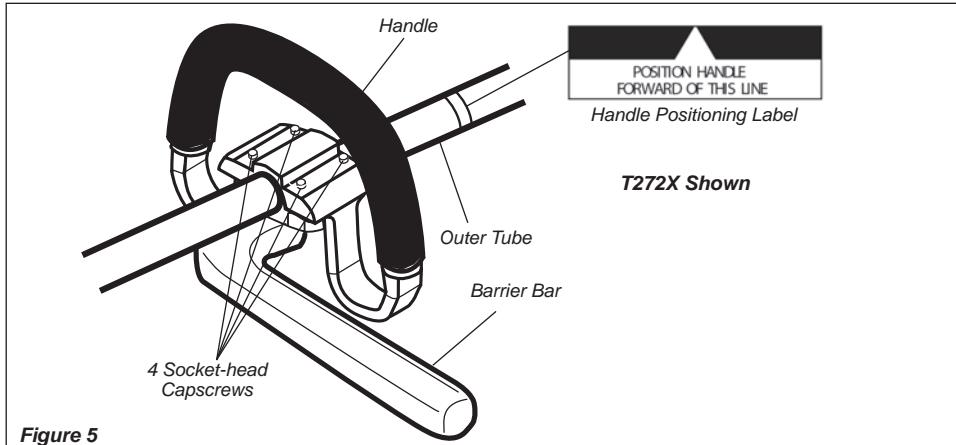
## IMPORTANT!

The terms "left," "left-hand," and "LH": "right," "right-hand," and "RH"; "front" and "rear" refer to directions as viewed by the operator during normal operation of this product.

## Handle T272/T272X

The handle is attached to the outer tube on the T272/T272X. To adjust the handle:

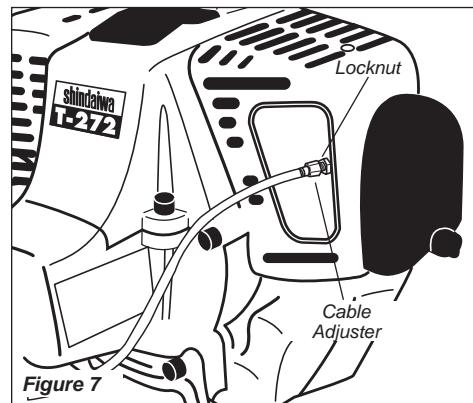
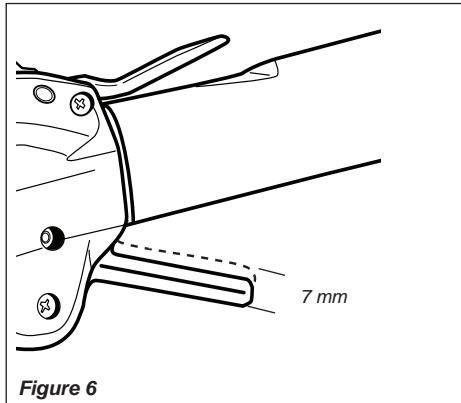
1. Loosen the 4 socket-head capscrews on the handle. See Figure 5.
2. Position the handle forward of the Handle Positioning Label at the best position for operator comfort (usually about 10 inches ahead of the throttle housing).
3. Secure the handle by alternately tightening the four socket-head cap screws in a diagonal or "criss-cross" fashion.



## Adjusting Throttle Level Free Play T272/T272X

The throttle lever free play should be approximately 7 mm. See Figure 7. Make sure that the throttle lever operates smoothly without binding. If it becomes necessary to adjust the lever free play, follow the procedures and illustrations that follow.

1. Loosen the lock nut on the cable adjuster. See Figure 6.
2. Turn the cable adjuster in or out as required to obtain proper free play of 9/32 inch (7mm). See Figure 7.
3. Tighten the locknut.



## Assembly (continued)

### Cutting Attachment Shield T272/T272X

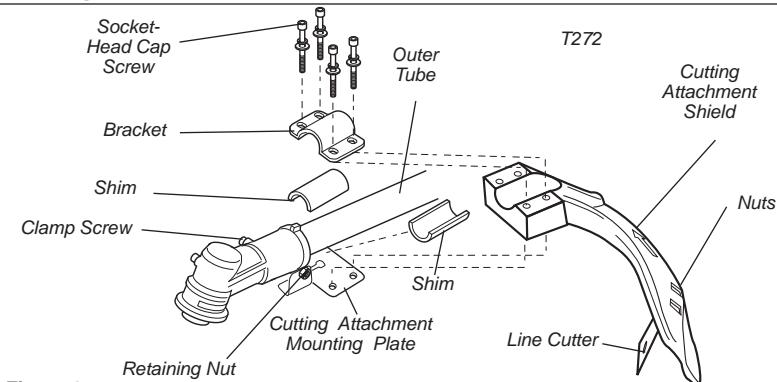


Figure 8

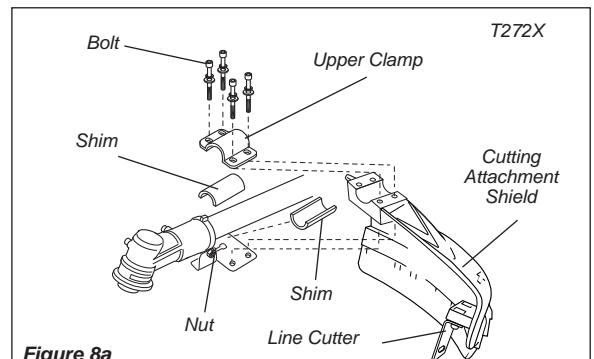


Figure 8a

1. Insert the cutting attachment shield between the outer tube and the cutting attachment mounting plate. See Figure 8.
3. Tighten the four socket-head cap screws to secure the cutting attachment shield.
4. Re-tighten clamp screw and retaining nut.

**NOTE:**

It may be necessary to loosen the retaining nut and clamp screw to adjust cutting attachment shield mounting plate.

2. Fit the two shims and the bracket over the outer tube and loosely install the four socket-head screws. See Figure 8.

**CAUTION!**

Make sure the clamp screw and retaining nut are securely tightened before tightening the four socket-head cap screws.

**WARNING!**

NEVER operate the unit without the cutting attachment shield installed and tightly secured!

Sub-Shield T272X  
(when trimmer head is in use)

1. Attach the shield extension to the cutting attachment shield.

**WARNING!**

NEVER use this machine without sub-shield when using a trimmer head.

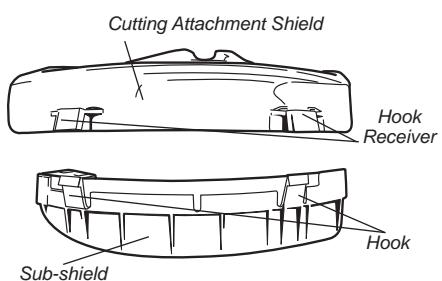


Figure 9

**CAUTION!**

Make sure the sub-shield is completely hooked at the hook receiver.

### Install trimmer head

1. Turn the trimmer over so that the gearcase output shaft faces UP.
2. Remove and discard the black plastic retaining plug from the output shaft. See Figure 10.
3. Rotate the holder until the hole in the holder aligns with the notch on the gearcase. Use the long end of the hex wrench to lock the holder and output shaft. See Figure 10.
4. While holding the hex wrench, thread the trimmer head onto the output shaft, turning counter-clockwise. Using hand pressure only, tighten the trimmer head firmly on the output shaft.

**IMPORTANT!**

The trimmer head has a left-hand thread. For removal turn the trimmer head clockwise.

5. Remove the hex wrench.
6. Adjust the trimmer line length to reach no further than the line cutter on the cutting attachment shield. Trim to the correct length if necessary.

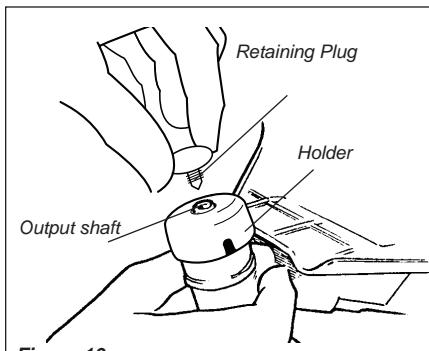


Figure 10

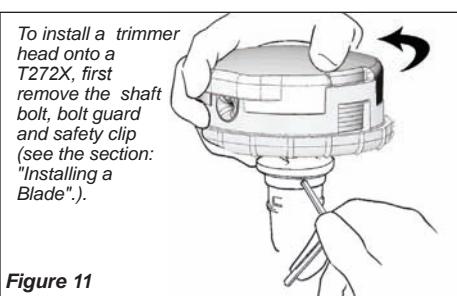
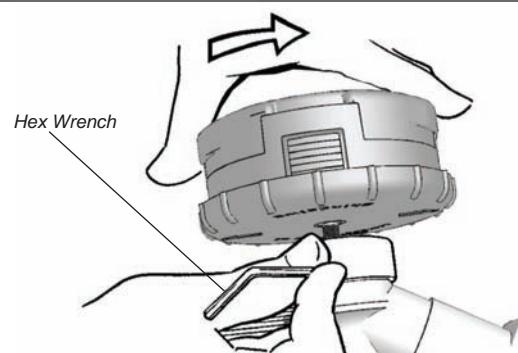


Figure 11

**WARNING!**

A standard grass trimmer with a loop handle should NEVER be operated with blade-type attachments. For blade use the trimmer must be fitted with a bicycle-type handlebar or a loop handle with a barrier bar that is located in front of the operator to reduce the risk of the operator coming in contact with the cutting attachment (per ANSI B175.3). When using a blade, the unit must also be equipped with a harness or strap.

To install a trimmer head onto a T272X, first remove the shaft bolt, bolt guard and safety clip (see the section: "Installing a Blade").

Figure 11

The unit should now be completely assembled and ready for use with a trimmer head.

## Assembly (continued)

### Mount the Cutting Blade T272X

Turn the T272X upside down so the gearcase output shaft is facing UP and remove the shaft bolt, bolt guard and holder B from the gearcase shaft.

1. Align the hole in blade holder A with the matching hole in the gearcase flange and then temporarily lock the output shaft by inserting a hex wrench through both holes. See Figure 12.
2. Slide the safety clip off-center. See Figure 13.
3. Fit the blade over the safety clip and then center it over the flange on holder A. See Figure 14.

#### CAUTION!

Install the blade so its printed surface is visible to the operator when the brushcutter is in the normal operating position.



#### WARNING!

The blade must fit flat against the holder flange. The blade mounting hole must be centered over the raised boss on blade holder A.

#### NOTE:

When installing certain blades, it may be necessary to temporarily remove the safety clip.

4. Lock the blade in place by centering the safety clip on the output shaft. See Figure 14.



#### WARNING!

Never operate the T272X without the safety clip in place!

#### IMPORTANT!

The machined recess in holder B must completely surround the safety clip, and both holders must be flat against the surface of the blade.

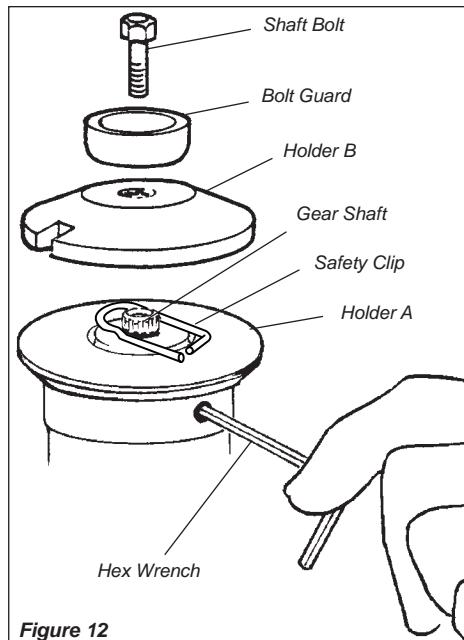


Figure 12

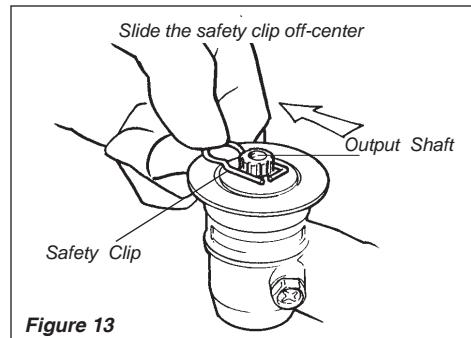


Figure 13

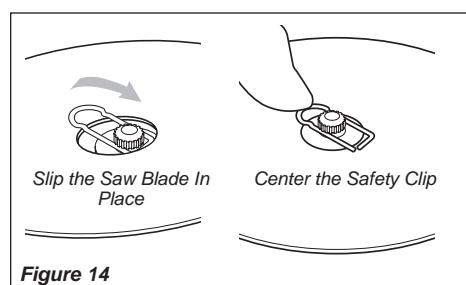


Figure 14

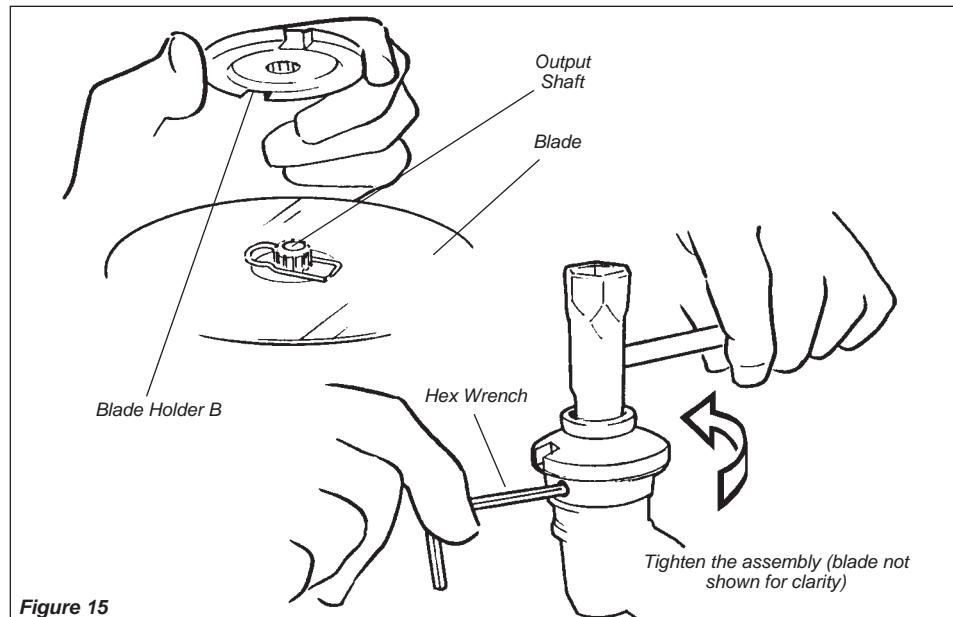


Figure 15

5. Install blade holder B on the output shaft. See Figure 15. The recess in the holder must completely cover the safety clip, and must fit tightly against the blade.
6. Install the bolt guard and then the blade retaining bolt. Using the combination spark plug wrench/screwdriver, tighten the bolt firmly in a counter-clockwise direction.
7. Remove the hex wrench.

The T272X should now be completely assembled and ready for use with a blade.

## Mixing fuel

### CAUTION!

- Never use any type of gasoline containing more than 10% alcohol by volume! Some types of gasoline contain alcohol as an oxygenate. Oxygenated gasoline may cause increased operating temperatures. Under certain conditions, alcohol-based gasoline may also reduce the lubricating qualities of some 2-cycle mixing oils.
- Generic oils and some outboard oils may not be intended for use in high-performance two-cycle engines, and should never be used in your Shindaiwa engine.

### CAUTION!

This engine is designed to operate on a 50:1 mixture consisting of unleaded gasoline and ISO-L-EGD or JASO FC class 2-cycle mixing oil only. Use of non-approved mixing oils can lead to excessive carbon deposits.

- Use only fresh, clean unleaded gasoline with a pump octane of 87 or higher.
- Mixed with 50:1 Shindaiwa ISO-L-EGD or JASO FC class 2-cycle mixing oil at a gasoline/ratio of 50:1 (1 gallon of gasoline to 2.6 ozs mixing oil). Shindaiwa One meets or exceeds these requirements.

### Examples of 50:1 mixing quantities

| Gasoline<br>liters | 2-cycle mixing oil<br>milliliters |
|--------------------|-----------------------------------|
| 2.5 - 1            | 50 ml                             |
| 5 - 1              | 100 ml                            |
| 10 - 1             | 200 ml                            |
| 20 - 1             | 400 ml                            |

### IMPORTANT

Mix only enough fuel for your immediate needs! If fuel must be stored longer than 30 days, it should first be treated with a fuel stabilizer such as STA-BIL™.

1. Oil is a registered JASO FC classified oil and also meets or exceeds ISO-L-EGD performance requirements. Shindaiwa One is recommended for use in all Shindaiwa low emissions engines. Shindaiwa One also includes a fuel stabilizer.

## Filling the fuel tank



### WARNING!

#### Minimize the Risk of Fire

**NEVER** smoke or light fires near the engine.

**ALWAYS** stop the engine and allow it to cool before refueling.

**ALWAYS** Wipe all spilled fuel and move at least 3 meters from the fueling point and source before starting.

**ALWAYS** inspect the unit for fuel leaks before each use. During each refill, check that no fuel leaks from around the fuel cap and/or fuel tank. If fuel

leaks are evident, stop using the unit immediately. Fuel leaks must be repaired before using the unit.

**ALWAYS** move the unit at least 3 meters away from a fuel storage area or other readily flammable materials before starting the engine.

**NEVER** place flammable material close to the engine muffler.

**NEVER** operate the engine without the muffler and spark arrester screen in place.

1. Place the unit on a flat, level surface.
2. Clear any dirt or other debris from around the fuel filler cap.
3. Remove the fuel cap, and fill the tank with clean, fresh fuel.
4. Reinstall the fuel filler cap and tighten firmly.

# Starting the Engine

## IMPORTANT!

Engine ignition is controlled by a two-position on-off switch mounted on the throttle body. This switch is typically labeled "I" for ON and "O" for OFF.



### WARNING!

Never start the engine from the operating position.

1. Slide the ignition switch to the "ON" position. See Figure 16.
2. Set the throttle lever to the "fast idle":
  - a. Squeeze the throttle lever toward the handgrip on the shaft tube.
  - b. Depress and hold the throttle lock button.
  - c. While depressing the throttle lock button, release the throttle lever. See Figure 16.
3. Press the primer bulb until fuel can be seen flowing in the transparent return tube.

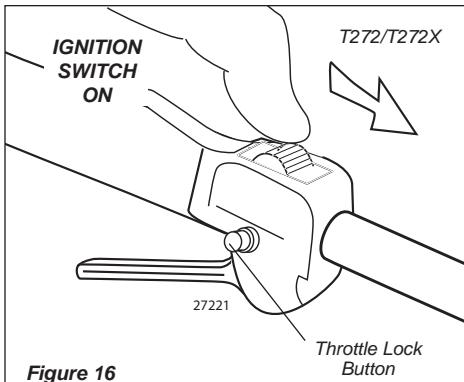


Figure 16

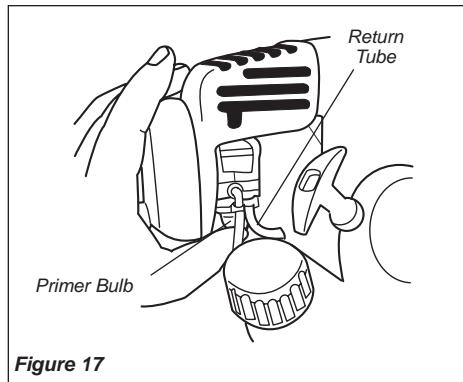


Figure 17

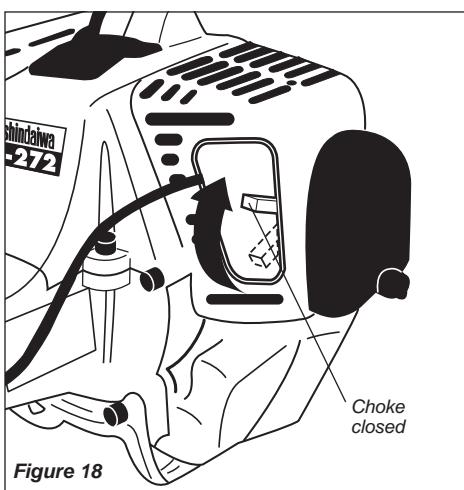


Figure 18

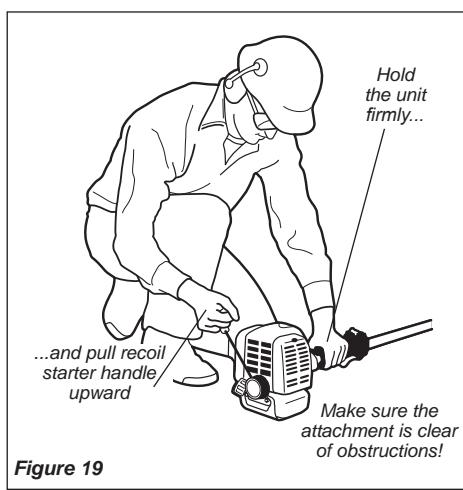


Figure 19

## IMPORTANT!

The primer system only pushes fuel through the carburetor. Repeatedly pressing the primer bulb will not flood the engine with fuel.

4. Set the choke lever to the CLOSED position if engine is cold. See Figure 18.
5. While holding the outer tube firmly with left hand. Use your other hand to slowly pull the recoil starter handle until resistance is felt, then pull quickly to start the engine.

## CAUTION!

Do not pull the recoil starter to the end of the rope travel. Pulling the recoil starter to the end of the rope travel can damage the starter.

### WARNING!

The cutting attachment may rotate when the engine is started!

6. When the engine starts, slowly move the choke lever to the "OPEN" position. (If the engine stops after the initial start, close the choke and restart.)
7. Operating the throttle will automatically disengage the fast idle setting.

## IMPORTANT!

If the engine fails to start after several attempts with the choke in the closed position, the engine may be flooded with fuel. If flooding is suspected, move the choke lever to the open position and repeatedly pull the recoil starter to remove excess fuel and start the engine. If the engine still fails to start, refer to the troubleshooting section of this manual.

## When the Engine Starts...

- After the engine starts, allow the engine to warm up at idle 2 or 3 minutes before operating the unit.
- After the engine is warm, pick up the unit and clip on the shoulder strap or harness if so equipped. See the section "Operation" later in this manual.
- Advancing the throttle makes the cutting attachment turn faster; releasing the throttle permits the attachment to stop turning. If the cutting attachment continues to rotate when the engine returns to idle, carburetor idle speed should be adjusted (see below)

## Stopping the Engine

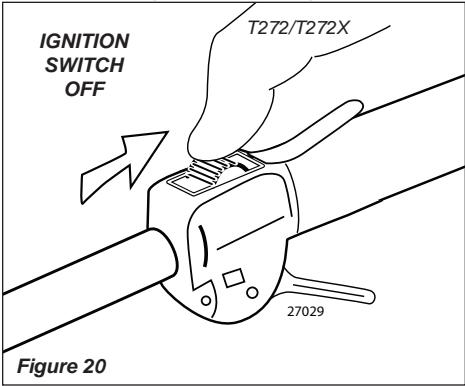


Figure 20

Idle the engine briefly before stopping (about 2 minutes), then slide the ignition switch to the "O" (OFF) position. See Figure 20.

## Engine Idle Adjustment

The engine must return to idle speed whenever the throttle lever is released. Idle speed is adjustable, and must be set low enough to permit the engine clutch to disengage the cutting attachment when the throttle is released.

### Idle Speed Adjustment



#### WARNING!

The cutting attachment must NEVER rotate at engine idle! If the idle speed cannot be adjusted by the procedure described here, have the unit inspected at an authorized Shindaiwa dealer.

1. Place the unit on the ground, then start the engine and allow it to idle for 2-3 minutes until warm.

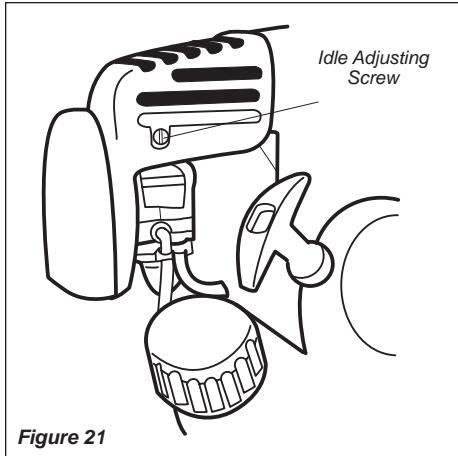


Figure 21

2. If the attachment rotates when the engine is at idle, reduce the idle speed by turning the idle adjustment screw counter-clockwise. See Figure 21.

3. If a tachometer is available, the engine idle speed should be final adjusted to 3,000 ( $\pm 250$ ) min<sup>-1</sup> (rpm).

#### NOTE:

Carburetor fuel mixture adjustments are preset at factory on units with emission control systems and cannot be serviced in the field.

## Checking Unit Condition

**NEVER** operate the unit with the cutting attachment shield or other protective devices (harness, ignition switch, blade retention clip, etc.) removed!

Use only authorized Shindaiwa parts and accessories with your Shindaiwa trimmer or brushcutter. Do not make modifications to the unit without the written approval of Shindaiwa, Inc.



#### WARNING!

A cutting attachment shield or other protective device is no guarantee of protection against thrown objects. YOU MUST ALWAYS GUARD AGAINST FLYING DEBRIS!

**ALWAYS** make sure the cutting attachment is properly installed and firmly tightened before operation.

**NEVER** use a cracked or warped cutting attachment: replace it with a serviceable one.

**ALWAYS** make sure the cutting attachment fits properly into the appropriate cutter holder. If a properly installed attachment vibrates, replace the attachment with a new one and re-check.

**ALWAYS** stop the engine immediately and check for damage if you strike a foreign object or if the unit becomes tangled. Do not operate with broken or damaged equipment.

**NEVER** allow the engine to operate at high RPM's without a load. Doing so could damage the engine.

**NEVER** operate a unit with worn or damaged fasteners or attachment holders.

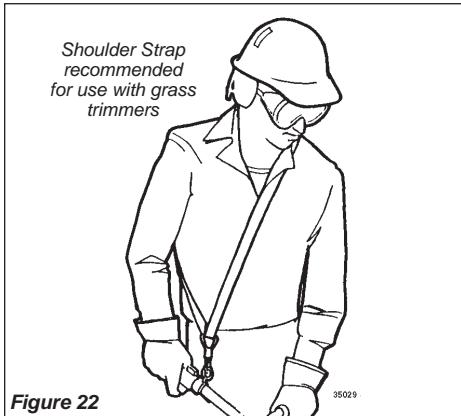
**NEVER** cut with dull blades. Doing so will increase the risk of blade thrust and may also damage your equipment.

# Operation

## Shoulder Strap T272X

### IMPORTANT!

Adjust the shoulder strap or harness so the shoulder pad rests comfortably on the off-side shoulder and the cutting path of the cutting attachment is parallel to the ground. Make sure all hooks and adjustment devices are secure.



### Cutting grass with a trimmer head

Your Shindaiwa unit may be equipped with one of several Shindaiwa trimmer head models, each with features for specific applications and/or operational requirements.

#### NOTE:

For proper operation, always refer to the instructions accompanying the trimmer head being used.

#### Trimmer head styles:

**Semi-automatic.** Trimmer line is indexed when the operator taps the trimmer head on the ground during operation.

**Manual.** The operator indexes line manually with the grass trimmer stopped.

**Fixed.** The operator must stop the unit and add new lengths of trimmer line manually.

**Flail.** This device, designed for clearing weeds and light brush, features three nylon blades attached to the head by pivots.

#### NOTE:

Additional hardware may be required to mount the Fixed Line or the Flail type trimmer heads.

#### Engine Operating Speeds

Operate at full throttle while cutting grass.

#### CAUTION!

Operation at low rpm can lead to premature clutch failure.

#### Trimming and Mowing Grass

Hold the grass trimmer so the trimmer head is angled slightly into the area to be cut. To ensure maximum trimmer-line service life, cut only with the tip of the trimmer line. Cut grass by swinging the unit's trimmer head from left to right. Keep the trimmer head horizontal.

#### CAUTION!

Do not push the rotating line into trees, wire fences or any material that could tangle or break line ends.

#### NOTE:

Although a shoulder strap accessory is not required for use with a grass trimmer, a shoulder strap can increase operator comfort during extended periods of operation.

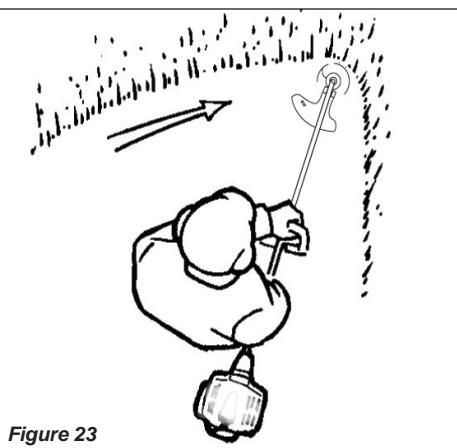


Figure 23

#### CAUTION!

■ Operation of trimmer without a cutting attachment shield and using excessive line length can lead to premature clutch failure.

■ Operation at low rpm can lead to premature clutch failure.

### Edging

Tilt the handle about 100° to the left (from horizontal) and move forward, holding the trimmer or brushcutter vertically as shown.

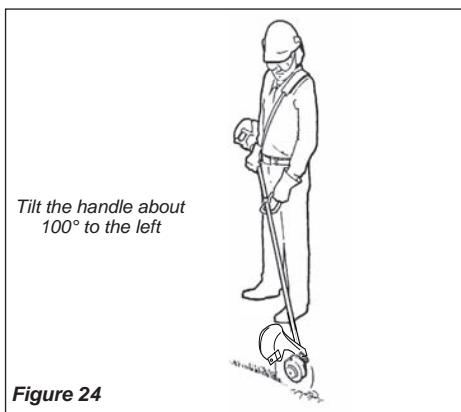


Figure 24

## Operation (continued)

Using a Blade T272X



### WARNING!

- Before working with a blade-equipped unit, always inspect and clean the area of objects that could interfere with or damage the blade.
- Never use a blade near sidewalks, fence posts, buildings or other objects that could cause injury or damage.
- Never use a blade for purposes other than those for which it was designed.

### Blade Thrust

"Blade thrust" is a sudden sideways or backward motion of the brushcutter. Such motion may occur when the blade jams or catches on an object such as a sapling tree or tree stump. BE CONSTANTLY ALERT FOR BLADE THRUST AND GUARD AGAINST ITS EFFECTS!

- Whenever you strike a hard object with a blade, always stop the brushcutter and carefully inspect the blade for damage. NEVER OPERATE THE BRUSHCUTTER WITH A DAMAGED BLADE!
- A blade-equipped unit must be equipped with a bicycle-type handlebar or barrier bar as well as a harness or shoulder strap.
- Always make sure the cutting attachment shield is properly installed before operating this unit.

### Brushcutter Shoulder Strap

A shoulder strap provides additional protection against blade thrust. In addition, a shoulder strap gives significant support and comfort to help ensure safe and efficient operation. When operating a unit with a blade, make sure both the handle and shoulder strap are adjusted to the size of the operator using the unit.

### Engine Operating Speeds

Operate the unit at full throttle while cutting. Best fuel efficiency is obtained by releasing the throttle when swinging back after a cut.

- To prevent possible engine damage, do not allow the brushcutter to run at high speeds without a load.
- Avoid operating the engine at low speeds. Doing so can lead to rapid clutch wear. In addition, slow-speed operation tends to cause grass and debris to wrap around the cutting head.

### Using a Blade



### WARNING!

Always wear a shoulder strap when operating this unit with a blade. A shoulder strap is also recommended when using trimmer line.

The blade rotates counter-clockwise. For best performance and to minimize being stuck by debris, move the blade from right to left while advancing on your work. Position the blade so cuts are made between the blade's 8 o'clock and 10 o'clock positions (as viewed from above). DO NOT cut between the 10 o'clock and 5 o'clock positions.



### WARNING!

When cutting wood with a blade, feed the blade slowly—never strike or "slam" a spinning blade against the wood.



### WARNING!

DO NOT use 2-tooth or non-Shindaiwa approved 4-tooth cutting blades with Shindaiwa trimmers and brushcutters.

### Brushcutter Handlebar

A brushcutter handlebar or barrier bar helps prevent the operator from moving forward, or the unit moving rearward, thus preventing inadvertent bodily contact with the blade. ALWAYS KEEP THE HANDLEBAR OR BARRIER BAR SECURELY IN PLACE ON THE UNIT!

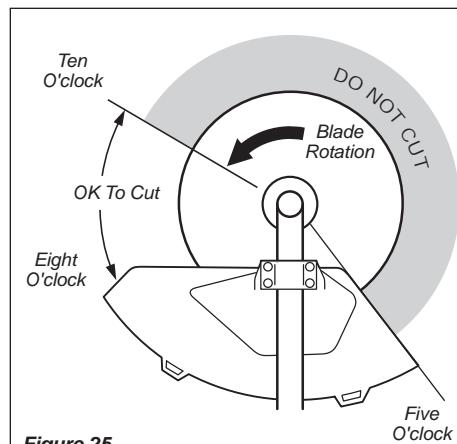


Figure 25

### WARNING!

When making vertical cuts, never allow the blade to exceed waist height.

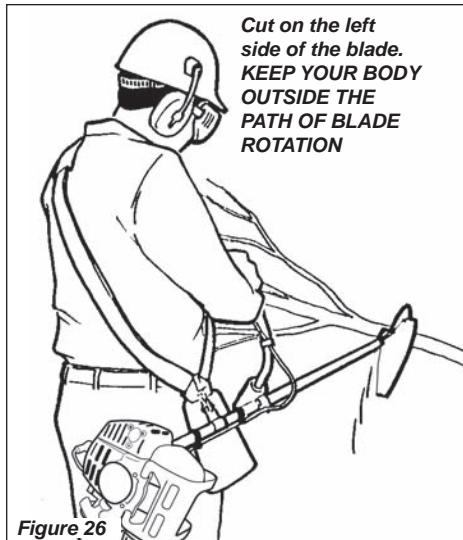


Figure 26

### Vertical Cuts

Hold the brushcutter with the blade at a 90° angle to the ground so the blade's bottom edge rotates toward the operator. Move the blade from top to bottom through the cut, and cut only with the bottom edge of the blade.

# Maintenance

## General Maintenance

### IMPORTANT!

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY A DEALER OR SERVICE CENTER AUTHORIZED BY SHINDAIWA CORPORATION. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.



#### WARNING!

Before performing any maintenance, repair, or cleaning work on the machine, make sure the engine and cutting attachment are completely stopped. Disconnect the spark plug wire before performing service or maintenance work.

### Muffler

This unit must never be operated with a faulty or missing spark arrester or muffler. Make sure the muffler is well secured and in good condition. A worn or damaged muffler is a fire hazard and may also cause hearing loss.

### Spark Plug

Keep the spark plug and wire connections tight and clean.

### Fasteners

Make sure nuts, bolts, and screws (except carburetor adjusting screws) are tight.

#### NOTE:

Using non-standard replacement parts could invalidate your Shindaiwa warranty.



#### WARNING!

Non-standard parts may not operate properly with your unit and may cause damage and lead to personal injury.

### Blades

Keep blades sharp and check blade condition frequently. If a blade's performance changes suddenly, stop the engine and check the blade for cracks or other damage. Replace a damaged blade IMMEDIATELY!



#### WARNING!

- Blades are not interchangeable between Shindaiwa edgers and trimmer/brushcutter models. Operating any unit with a blade or attachment not approved for that unit can be hazardous and may cause serious injury.
- DO NOT use 2-tooth or NON-Shindaiwa approved 4-tooth cutting blades on Shindaiwa trimmers or brushcutters.
- Never repair a damaged blade by welding, straightening, or by modifying its shape. An altered blade may break during operation, resulting in serious personal injury.

## Daily Maintenance

### Prior to each work day, perform the following:

- Remove the dirt and debris from the engine, check the cooling fins and air cleaner for clogging, and clean them as necessary.

■ Carefully remove any accumulations of dirt or debris from the muffler and fuel tank. Dirt buildup in these areas can lead to engine overheating, fire, or premature wear.

- Check for loose or missing screws or components. Make sure the cutting attachment is securely fastened.
- Check the machine for leaking fuel or grease.

## 10 Hour Maintenance

### Perform more frequently in dusty or dirty conditions.

- Remove the air cleaner filter. Clean or replace as necessary. To clean filter wash it thoroughly in soap and water. Let it dry before reinstalling the filter.

#### CAUTION!

Do not operate the machine if the air cleaner or element is damaged, or if the element is water-soaked.

Remove and clean or replace the element

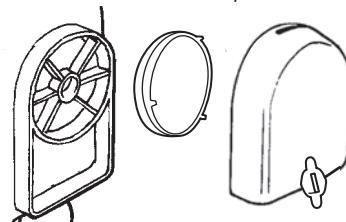


Figure 27

## 10/15 Hour Maintenance

- Remove and clean the spark plug. Adjust the spark plug electrode gap to 0.6 - 0.7mm. If the plug must be replaced, use only Champion CJ8Y.
- Keep the spark plug wire connections tight and clean.

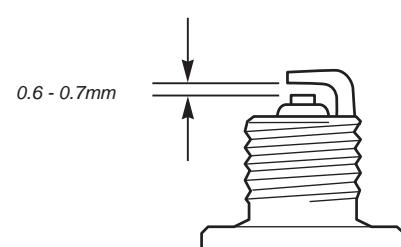


Figure 28

#### CAUTION!

Before removing the spark plug, clean the area around the plug to prevent dirt and dust from getting into the engine's internal parts.

## Maintenance (continued)

### 50 Hour Maintenance

Perform more frequently in dusty or dirty conditions.

- Remove and clean the cylinder cover and clean grass and dirt from the cylinder fins.
- Remove the cutting attachment, cutting attachment holder and gear shaft collar. Remove the filler plug from the side of the gearcase and press new grease into the gearcase until old grease is pushed out. Use only lithium-base grease such as Shindaiwa Gearcase Lubricant or equivalent.

#### Fuel Filter Maintenance

- Use a hooked wire to extract the fuel filter from inside the fuel tank.
- Remove the filter element.
- Before reinstalling the new filter element, inspect the condition of all the fuel system components (fuel pick-up line, fuel return line, tank vent line, tank vent, fuel cap and fuel tank). If damage, splitting or deterioration is noted, the unit should be removed from service until it can be inspected or repaired by a Shindaiwa-trained service technician.

#### CAUTION!

Make sure you do not pierce the fuel line with the end of the hooked wire. The line is delicate and can be damaged easily.

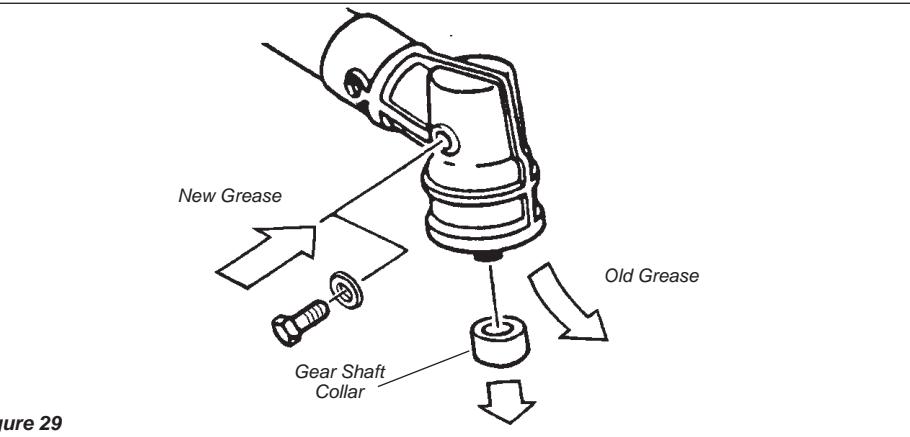


Figure 29

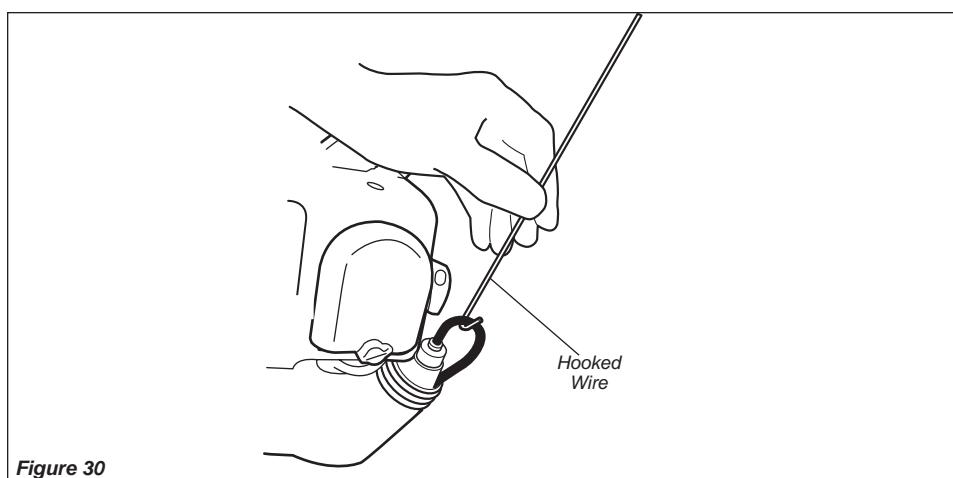


Figure 30

### 135-Hour Maintenance

**Every 135 hours of operation,** remove and clean the muffler.

Hard starting or a gradual loss of performance can be caused by carbon deposits its lodged in the muffler's spark arrester screen.

1. Remove the spark plug boot.
2. Remove the four 4 mm engine cover screws (two in the back and two in the front of the cover) and lift the cover from the engine.
3. Remove the two 5 mm muffler screws. Remove the lower muffler screw, then lift the muffler assembly from the engine.



#### WARNING!

Never operate this unit with a damaged or missing muffler or spark arrester! Operating with missing or damaged exhaust components is a fire hazard and may also damage your hearing.

4. Separate the muffler from the forward muffler shield, while observing the orientation of the components. See Figure 31.
5. Remove the spark arrester screen and clean with a stiff bristle brush.
6. Gently tap the muffler on a wood surface to dislodge any loose carbon.
7. Inspect the cylinder exhaust port for carbon buildup.
8. Reassemble the muffler in the reverse order of disassembly.

#### IMPORTANT!

If you note excessive carbon buildup, consult with an authorized servicing dealer.

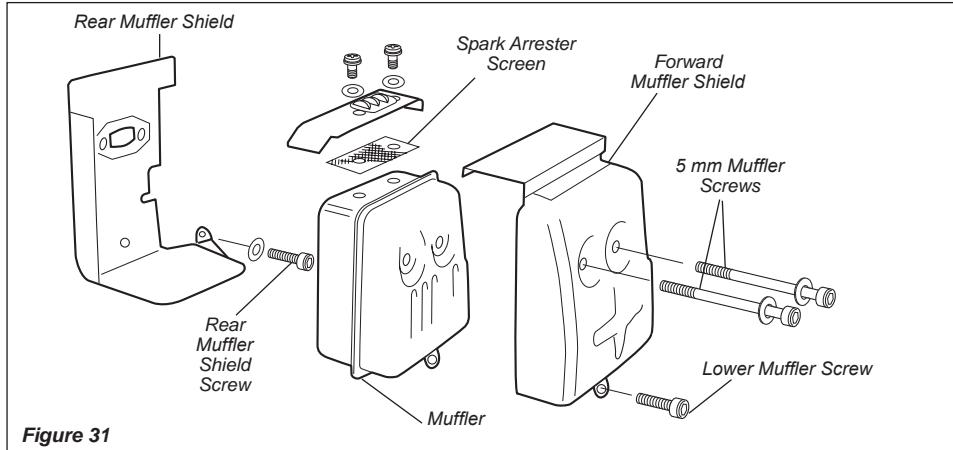


Figure 31

## Long Term Storage

Whenever the unit will not be used for 30 days or longer, use the following procedures to prepare it for storage:

- Clean external parts thoroughly.
- Drain all the fuel from the fuel tank.

### IMPORTANT!

All stored fuels should be stabilized with a fuel stabilizer such as STA-BIL™, if **ONE** oil with fuel stabilizer is not used.

### CAUTION!

Gasoline stored in the carburetor for extended periods can cause hard starting and could also lead to increased service and maintenance costs.

To remove the remaining fuel from the fuel lines and carburetor and with the fuel drained from the fuel tank.

1. Prime the primer bulb until no more fuel is passing through.
  2. Start and run the engine until stops running.
  3. Repeat steps 1 and 2 until the engine will no longer start.
- Remove the spark plug and pour about 1/4 ounce of 2-cycle mixing oil into the cylinder through the spark plug hole. Slowly pull the recoil starter 2 or 3 times so oil will evenly coat the interior of the engine. Reinstall the spark plug.

- Before storing the unit, repair or replace any worn or damaged parts.
- Remove the air cleaner element from the carburetor and clean it thoroughly with soap and water. Let dry before reinstalling the element.
- Store the unit in a clean, dust-free area.

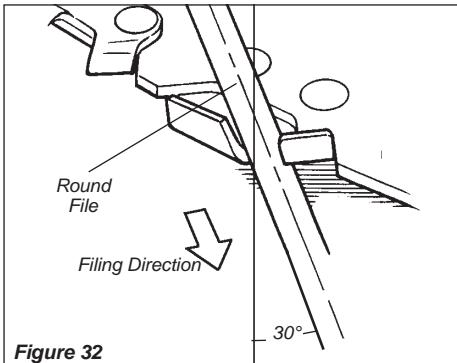
## Blade Sharpening

When the blade's cutting edges become slightly dull, they can be resharpened with a few strokes of a file. In order to keep the blade in balance, all cutting edges must be sharpened equally.

### Shindaiwa Tornado™ Blade

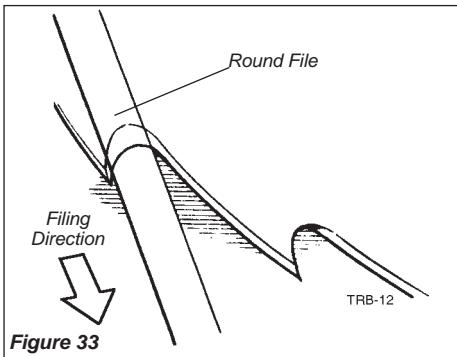
To sharpen the cutters on a Shindaiwa Tornado Blade, use a 7/32-inch round file. File the leading edge of each tooth to a razor edge. The top plate of each tooth should angle back 30°.

**WARNING!**  
Sharpen the cutting teeth only. DO NOT alter the contour of the blade in any way.



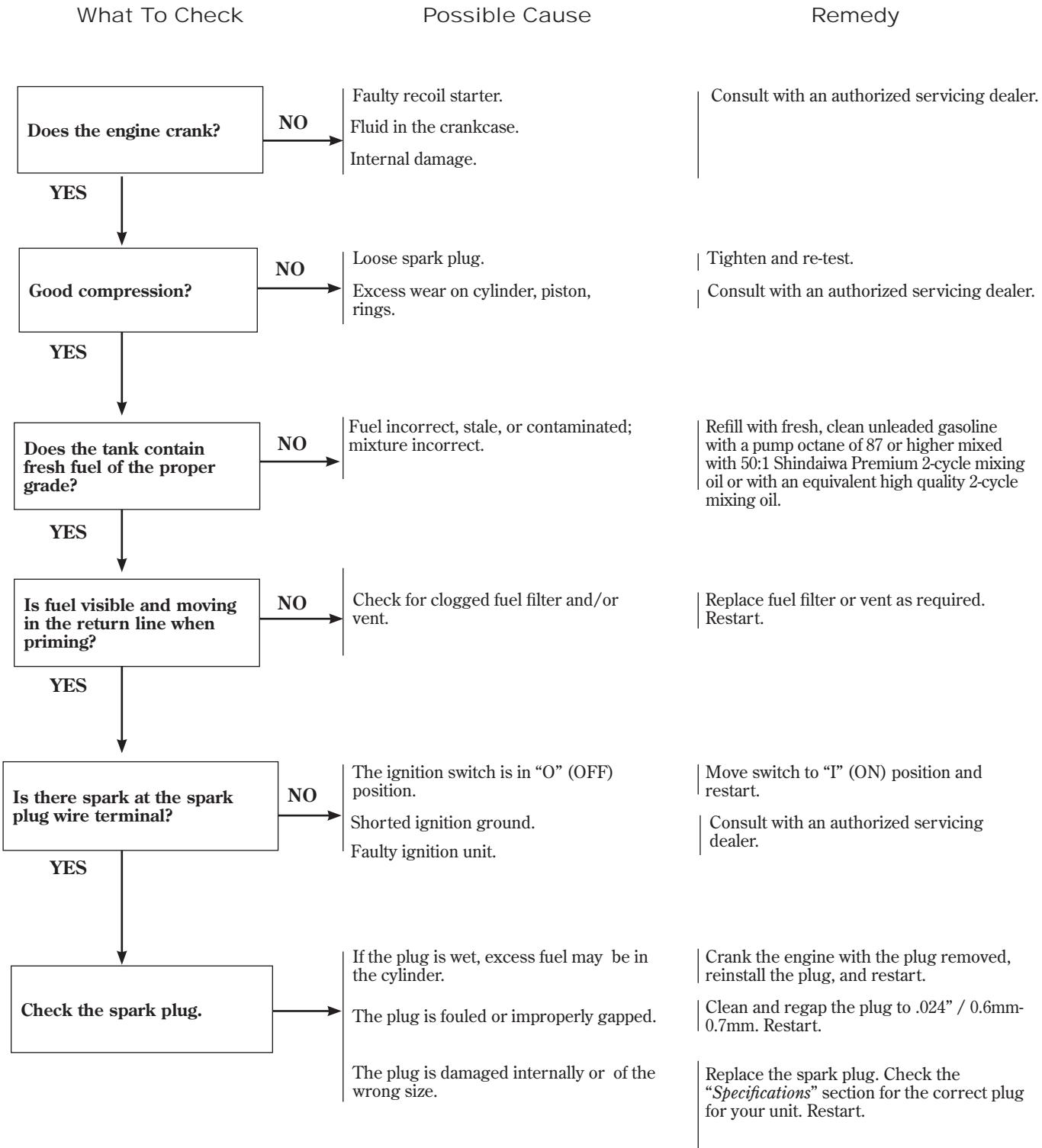
### Multiple-tooth Circular Blade

Use a round file to maintain a radius of 0.04 to 0.06" (1 to 1.5 mm) at the base of each tooth. Cutting edges must be offset equally on each side.



# Troubleshooting Guide

## ENGINE DOES NOT START



## Troubleshooting Guide (continued)

### LOW POWER

| What To Check  | Possible Cause  | Remedy  |
|--|---|---|
| <b>Is the engine overheating?</b>  | <p>Operator is overworking the unit.</p> <p>Carburetor mixture is too lean.</p> <p>Improper fuel ratio.</p> <p>Fan, fan cover, cylinder fins dirty or damaged</p>   | <p>Cut at slower rate.</p> <p>Consult with an authorized servicing dealer.</p> <p>Refill with clean fresh unleaded gasoline with a pump octane of 87 or higher, mixed with Premium 2-cycle mixing oil at a 50:1 gasoline/oil ratio.</p> <p>Clean, repair or replace as necessary.</p>   |
| <b>Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.</b> | <p>Carbon deposits on the piston or in the muffler.</p> <p>Clogged air cleaner element.</p> <p>Loose or damaged spark plug.</p> <p>Air leakage or clogged fuel line.</p> <p>Water in the fuel.</p> <p>Piston seizure.</p> <p>Faulty carburetor and/or diaphragm</p> | <p>Consult with an authorized servicing dealer</p> <p>Clean or replace the air filter</p> <p>Tighten or replace the spark plug. Restart. Check the Product Specifications page in this manual for the correct spark plug for this unit.</p> <p>Repair or replace fuel filter and/or fuel line.</p> <p>Refill with fresh fuel/oil mixture.</p> <p>Consult with an authorized servicing dealer.</p> |
| <b>Engine is knocking.</b>   | <p>Overheating condition.</p> <p>Improper fuel.</p> <p>Carbon deposits in the combustion chamber.</p>   | <p>Consult with an authorized servicing dealer.</p> <p>Check fuel octane rating; check for presence of alcohol in the fuel. Refuel as necessary.</p> <p>Consult with an authorized servicing dealer.</p>  |

# Troubleshooting Guide (continued)

## ADDITIONAL PROBLEMS

| What To Check                                   | Possible Cause  | Remedy   |
|---|---|--|
| <b>Poor acceleration.</b>                       | Clogged air filter.<br>Clogged fuel filter.<br>Lean fuel/air mixture.<br>Idle speed set too low.  | Clean or replace the air filter.<br>Replace the fuel filter.<br>Consult with an authorized servicing dealer.<br>Adjust:3,000 ( $\pm 300$ ) min <sup>1</sup> .  |
| <b>Engine stops abruptly.</b>                   | Switch turned off.<br>Fuel tank empty.<br>Clogged fuel filter.<br>Water in the fuel.<br><br>Shorted spark plug or loose terminal.<br><br>Ignition failure.<br>Piston seizure. | Reset the switch and re-start.<br>Refuel. See Fuel section of manual.<br>Replace fuel filter.<br>Drain; replace with clean fuel. See Fuel section of manual..<br><br>Clean or replace spark plug. Check the Specifications page in this manual for the proper spark plug for your unit. Tighten the terminal.<br><br>Replace the ignition unit.<br>Consult with an authorized servicing dealer |
| <b>Engine difficult to shut off.</b>            | Ground (stop) wire is disconnected or switch is defective<br><br>Overheating due to incorrect spark plug<br><br>Overheated engine.  | Test and replace as required.<br><br>Replace the spark plug. Check the Specifications page in this manual for the proper spark plug for your unit.<br><br>Idle engine until cool.  |
| <b>Cutting attachment moves at engine idle.</b> | Engine idle too high.<br>Broken clutch spring or worn clutch spring boss.<br>Loose attachment holder.   | Adjust idle 3,000 ( $\pm 300$ ) min <sup>1</sup> .<br>Replace spring/shoes as required.<br>Inspect and re-tighten holders securely.  |
| <b>Excessive vibration.</b>                     | Warped or damaged attachment.<br>Loose gearcase.<br>Bent main shaft/worn or damaged bushings.   | Inspect and replace attachment as required.<br>Tighten gearcase securely.<br>Inspect and replace as necessary.   |
| <b>Attachment will not rotate.</b>              | Shaft not installed in powerhead or gearcase.<br><br>Broken shaft.<br>Damaged gearcase.   | Inspect and reinstall as required.<br><br>Consult with a authorized servicing dealer.  |

# Emission System Warranty Statement

## Your Warranty Rights and Obligations

The California Air Resources Board, the U.S. Environmental Protection Agency and Shindaiwa Corporation are pleased to explain the exhaust and evaporative emission control system warranty on your new small off-road (non-road) engine.

In California, new small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. In other states, new 1997 and later non-road engines must meet the Federal EPA's stringent anti-smog standards.

Shindaiwa Corporation must warrant the emission control system on your small off-road engine for the periods of time listed below, provided there has been no abuse, neglect, or improper maintenance of your small off-road engine.

Your engine exhaust and evaporative emission control system includes parts such as the carburetor, fuel tank, the ignition system and, if equipped, the catalytic converter. These components are specifically listed below.

Where a warrantable condition exists, Shindaiwa Corporation will repair your small off-road engine at no cost to you including diagnosis, parts, and labor.

## Manufacturer's Warranty Coverage

When sold within the U.S., this engine's emission control system is warranted for a period of two (2) years from the date this product is first delivered to the original retail purchaser.

During the warranty period, Shindaiwa Corporation will, at their option, repair or replace any defective emission-related component on this engine. During the original Warranty Period, these Warranty Rights are automatically transferable to subsequent owners of this product.

## What is Covered by this Warranty

1. Carburetor Internal Components
  - Throttle Valve, Needle, Jet, Metering Diaphragm
2. Fuel Tank
3. Ignition System Components
  - Ignition Coil
  - Flywheel Rotor
4. Catalytic Converter (if originally equipped)

The emission control system for your particular Shindaiwa engine may also include certain related hoses and connectors.

## Owners Warranty Responsibilities

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in this owners manual. Shindaiwa Corporation recommends that you retain all receipts covering maintenance on your small off-road engine, but Shindaiwa Corporation cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine owner, you should be aware, however, that Shindaiwa Corporation may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

You are responsible for presenting your small off-road engine to an authorized Shindaiwa Dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact a Shindaiwa customer service representative at (503) 692-3070 or your local Shindaiwa Dealer.

## Consequential Damages

In the event that other component parts of this product are damaged by the failure of a warranted part, Shindaiwa Corporation will repair or replace such component parts at no charge to you.

## What is Not Covered

- Failures caused by abuse, neglect, or improper maintenance procedures.
- Failures caused by the use of modified or non-approved parts or attachments.

## This Warranty is Administered by:

Shindaiwa Inc.  
11975 S.W. Herman Rd.  
Tualatin, OR 97062  
(503) 692-3070

**shindaiwa®**

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Revision 11/06  
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Revisión 11/06

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**shūdama®**

Teléfono: 503 692 3070  
Tulaatin, OR 97062  
11975 SW Hermann Rd  
Shindaiwa Inc.

Esta garantía es administrada por:

■ Fallas causadas por el impropio. Fallas causadas por el dos o no autorizados.

Due No Esta Cubierto

En el evento de que alguna otra parte de los comunitarios de este producto estén dañados debido a la falla de alguna parte bajo la garantía, la Corporación Shindaiwa, preparará o cambiará tales partes sin costo alguno para usted.

### Jahos Cohsiquilethes

Si tiene alguna pregunta con respecto a sus derechos y responsabilidades de garantía, usted debe contactar a un representante del servicio al cliente de Shindaiwa al (503) 692-3070 o a su centro local de servicio Shindaiwa.

razonable que no exceda 30 días.

Usted es responsable de presentar su pedigríeo motor (no para el uso en automóviles) a un centro de servicio Shindaiwa autorizado tan pronto como se presente un problema. Las reparaciones bajo garantía deben ser completadas en un tiempo

modificações no autorizadas.

Como propietario del motor pedaleo (no para el uso en automóviles), debe saber que la Corporación Shimadawa puede megafile la cobertura de garantía si su motor o sus partes han fallado debido a la uso negligencia mantenimiento impropio o daño intencional.

la falta de recibos o por no llevar a cabo los mantenimientos

proprietario. La Corporación Shindaiwa recomienda que se guarden los recibos que demuestran el mantenimiento de su motor pedneumo (no para el uso en automóviles), pero la Cor- poración Shindaiwa no puede negar la garantía solamente por

mantenimiento periódico y mencionado en este manual de operación (página 1), se lleva a cabo para fijar los componentes que

Como propietario del motor pequeño (no para el uso en atmóviles) es usted responsable por el rendimiento del dispositivo.

2. Tanque de combustible
3. Los componentes del sistema de encendido.
4. Conversidor catalítico (si esta originalmente equipado).

- Motor del volante.
- Rosca del arrancador.
- Rosca del arancador.
- Rotar del volante.

El sistema de control de emisión de su motor Shindaiwa puede también incluir ciertas mangúeras y conexiones para el combustible.

Que Esta Cubierta Por Esta Garantía

Cuando sea vendido en los Estados Unidos, el sistema de control de emisión de este motor essta garantizado por un período de dos (2) años desde la fecha en que el producto es entregado por primera vez al comprador minorista original. Durante el período de la garantía, la Corporación Shimadawa efectuosa reacciónado con el sistema de emisión del motor. Durante el período original de la garantía, estos derechos de garantía son automáticamente transferibles a propietarios sub-siguiientes de este producto.

Cuando existe una condición bajo garantía, la Corporación Shindawa reparará su pedidido motor (no para el uso en automóviles) sin costo alguno para usted incluyendo el diagnóstico, repuestos y mano de obra.

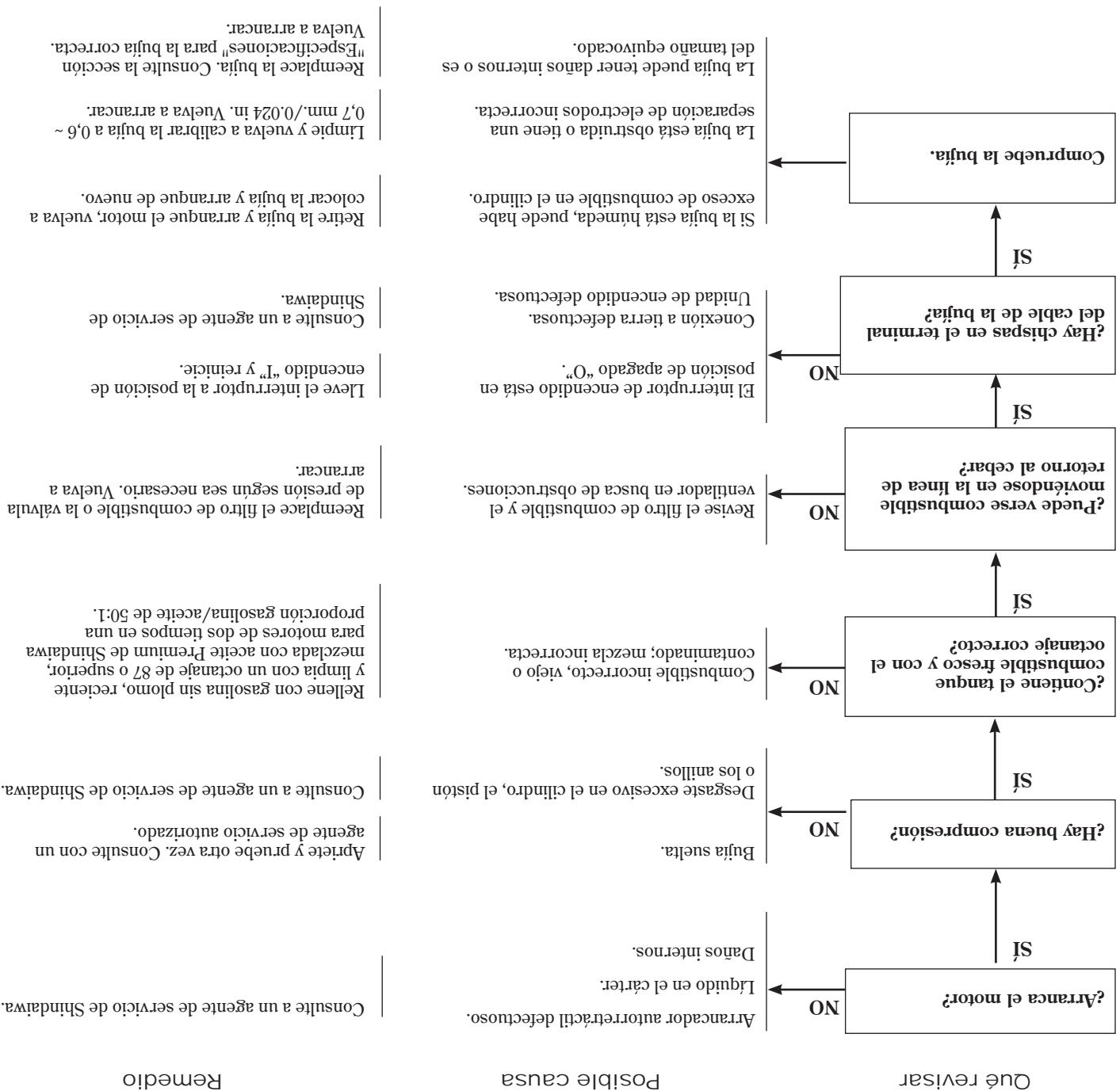
Su sistema de control de escape y evaporación de emisiones incluye partes, tal como el carburador, tanque de combustible, el sistema de encendido, y, si es la equipado, el convertidor catalítico. Estos componentes están mencionados específicamente abajo.

En California, los motores pedaleados (no para el uso automóviles) están diseñados, construidos y equipados para cumplir con las normas exigentes de anti-contaminantes del Estado de California. En otros estados, los motores nuevos cumplirán las normas federales exigentes de la EPA de aquí en adelante de 1997 para adelante dependiendo del uso en automóviles. Los otros estados, los motores nuevos cumplirán las normas federales exigentes de la EPA de aquí en adelante de 1997 para adelante dependiendo del uso en automóviles. La operación Shindaiwa debe garantizar el cumplimiento de la emisión de su motor pedaleado (no para el uso en automóviles) durante los períodos mencionados arriba, así como el cumplimiento de su motor pedaleado (no para el uso en automóviles) que no haya habido abuso, negligencia o maltrato.

Sus Derechos y Obligaciones de Garantía  
La Junta de Recursos de Aire de California, La Agencia de Protección del Ambiente Estado Unidos y la Corporación Shindawa se complacen en explicar la garantía del sistema de control del escape y evaporación de emisiones de su nuevo motor peduleyo (no para el uso en automóviles).

| Guía Diagnóstico (continuación)                              | Otros problemas  | Qué revisar   | Posible causa  | Remedio  |
|--|--|---|--|--|
| <b>Deficiente aceleración.</b>                               | Filtro de aire obstruido.<br>Limpie o reemplace el filtro de aire.   | Filtro de combustible obstruido.<br>Cambie el filtro de combustible.  | Mezcla de combustible/aire muy pobre.<br>Causa de combustible autorizada.  | Ralentí ajustado muy bajo.<br>Ajuste: 2.750 (±250) min <sup>-1</sup> .                               |
| <b>El motor se detiene abruptamente.</b>                     | Tanque de combustible vacío.<br>Repose combustible. Consulte la sección "Tanque de Combustible".                     | Filtro de combustible obstruido.<br>Cambie el filtro de combustible.  | Agua en el combustible.<br>Drene; cambie con combustible limpío. Consulte la sección "Lleneando el Tanque de Combustible". | Bujía defectuosa o terminal floja.<br>La sección "Lleneando el Tanque de Combustible".               |
| <b>El motor se detiene.</b>                                  | Interruptor en posición de apagado.<br>Arrancar.   | Resalte combustible vacío.<br>el Tanque de Combustible.   | Agua en el combustible.<br>Drene; cambie con combustible limpío. Consulte la sección "Lleneando el Tanque de Combustible". | Bujía defectuosa o terminal floja.<br>La sección "Lleneando el Tanque de Combustible".               |
| <b>El motor se apagaado del motor.</b>                       | Cable de conexión a tierra (detenido)<br>Pruebe y reemplace sección seña necesaria.                                  | Sobrecalentamiento debido a bujía incorrecta.<br>Reemplace la bujía. Consulte la sección "Especificaciones" para la bujía correcta. | Motor sobrecaleñado.<br>Deje el motor al ralentí hasta que se enfrie.  | Ralentí demasiado alto.<br>Fije el ralentí: 2.750 (±250) min <sup>-1</sup> .                         |
| <b>El accesoario de corte se mueve al ralentí del motor.</b> | Ralentí demasiado alto.<br>firmaza.  | Resorte del embrague roto o resalte desgastado.<br>Reemplace muelle/zapatas según sea necesario; compruebe el ralentí.              | Resorte del embrague roto o resalte desgastado.<br>Reemplace muelle/zapatas según sea necesario; compruebe el ralentí.     | Resorte del embrague roto o resalte desgastado.<br>Fije el ralentí: 2.750 (±250) min <sup>-1</sup> . |
| <b>Excesiva vibración.</b>                                   | Accesorio torcido o dañado.<br>Examine y cambie el accesorio según sea necesario.                                    | Accesorio torcido o dañado.<br>Examine y cambie el accesorio según sea necesario.   | Existe la caja de engranajes con firmeza.<br>Apriete la caja de engranajes con firmeza.                                    | Eje central doblado, cojinetes desgastados o dañados.<br>Examine y cambie sección seña necesaria.    |
| <b>El accesoario no gira.</b>                                | Eje no instalado en el bloqueo motor o la caja de engranajes.<br>Examine y vuélvala a instalar según seña necesaria. | Eje roto.<br>Caja de engranajes dañada.   | Eje roto.<br>Caja de engranajes dañada.  | Eje roto.  |

| Guía Diagnóstico (continuación)  | BAJA POTENCIA                          | Que revisar   | Posible causa  | Remedio  |
|----------------------------------|--|---|--|--|
| ?Se sobrecalefienta el motor?    | La mezcla del carburador es muy pobre. | Consulte con un agente de servicio autorizado.  | Unidad sobrecargada por el uso tarro.                      | Corte más despacio.                            |
| El motor funciona por el escape. | Proporción de combustible inapropiada. | Releve con gasolina sin plomo, reciente y limpia con un octanaje de 87 o superior, mezclada con dos tiempos en una proporción gasolina/acetato de 50:1. | Ventilador, tapa del ventilador o aletras del silenciador. | Limpie o reemplace el filtro de aire.          |
| El motor golpea.                 | Agua en el combustible.                | Prepare o cambie el filtro o el conducto de combustible.  | Pistón griñado.  | Consulte con un agente de servicio autorizado. |
| Sobrecalefamiento.               | Buja seca o dañada.                    | Apriete o cambie la buja. Consulte la sección "Especificaciones" para la bujía.   | Carburador y/o diafragma defectuoso.                       | Consulte con un agente de servicio autorizado. |
| El motor golpea.                 | Combustible inadecuado.                | Revise el líquido de octanaje del combustible revisto; revise si el combustible contiene alcohol. Reporte cuando sea necesario.                         | Depósitos de carbonilla en la cámara de combustión.        | Consulte con un agente de servicio autorizado. |



Use una llima redonda para mantener un radio de 0,04 a 0,06 pulgadas (1 a 1,5mm) en la base de cada diente. Los dientes deben quedar igualmente descentrados por cada lado. Consulte la figura 33.

The diagram shows a Cartesian coordinate system with a horizontal x-axis and a vertical y-axis. A curve is plotted that features a sharp cusp pointing downwards, labeled "Lima" and "Redondada". From this cusp, a loop extends upwards and to the left, labeled "TRB-12". A large arrow points upwards from the right side of the graph, labeled "Dirección de Afiliación". The axes are represented by straight lines.

Para sifilar los clientes de corto de un DISSCO Shindaiwa Lornado™, use una disco Shindaiwa Lornado™, use una bordes guía de cada diéntre hasta obtener un filo similar al de una hoja de aletar. La superfi cie superior de cada diéntre debe tener una inclinación de 30 grados. Consulte la figura 32.

Cuando los bordes de corte de un disco pierdan su filo, pueden ser utilizados rápidamente con una lima. Para mantener el disco balanceado, todos los bordes de corne deben ser afilados uniformemente.

Afilado de Discos

- Reutilizar el elemento del filtro de aire del cuadro y limpiarlo minuciosamente con agua y jabón. Deje que seque y vuélvala a ensamblar el elemento.
- Reutilice el elemento del filtro de aire del cuadro y limpiarlo minuciosamente con agua y jabón. Deje que seque y vuélvala a ensamblar el elemento.
- Antes de almacenar la máquina, repare o cambie cualquier pieza dañada o gastada.
- Forme una jalea en el interior del motor.
- Vacíe para que el aceite se aplique uniformemente en el interior del motor.
- Lentamente jale el arrancador 2 ó 3 veces para que el aceite se aplique uniformemente en el interior del motor.
- Mire a través del agujero de la bujía.
- Menee  $\frac{1}{4}$  de onza de aceite de mezcla para motores de 2 tiempos en el cilindro.
- Reutilice la bujía y intercambie la mezcla.

**PRECAUCION!**  
Gasolina almacenada en el carbura-  
dor por periodos largos pude causar  
un arranque duro y puede conducir  
a un aumento en costo de servicio y  
mantenimiento.

3. Una decisión de los consumidores es cuando tienen que el combusitible dese de pasar. 2. Arranque y mantenimiento encendido el motor hasta que pare de funcionar. Repita los pasos 1 y 2 hasta que el motor ya no arranque.

Para returar el resto del combustible en las tuberías de combustible y carburador y con el tanque de combustible vacío.

- Dréne todo combusible en el tanque.
- Limpie las partes extremas minuciosamente.
- Todo combustible almacenado debe estar estabilizado con un estabilizador de combustible tal como STA-BIL™, al menos una vez que se acete la mezcla.
- Usada por 30 días o más, siga los siguientes procedimientos para preparar su almacénamiento:
  - Combustible combinable.

Almacénamiento de Largo Plazo

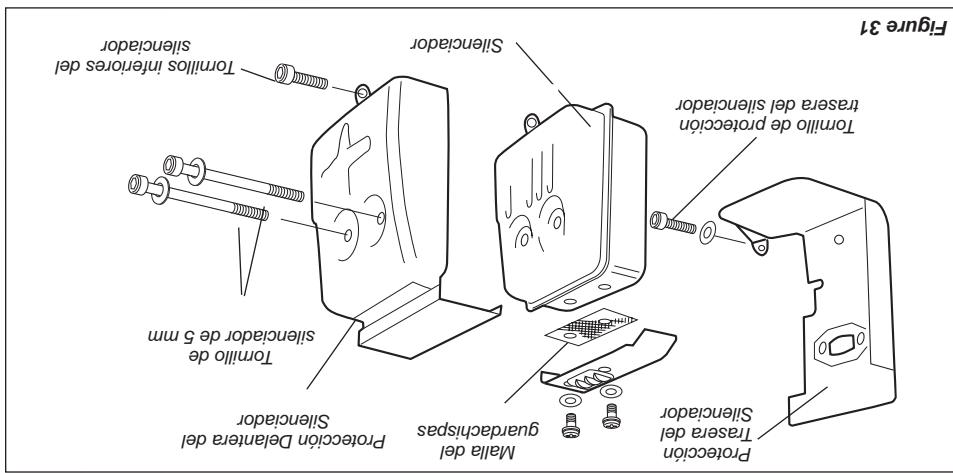


Figure 31

- !IMPORANTE!**
- 8. Vuelva a ensamblar el silenciamiento en forma reversa al orden de desensamble.
  - 7. Limpie el silenciamiento el orificio del escape del cilindro en busca de acumulaciones de carbono.
  - 4. Separe el silenciamiento de la protección de escape. Deberá, mientras observe la orientación de los componentes. Consulte la figura 31.
  - 5. Retire la malla guardachispas y limpíela con un cepillo de cerdas gruesas.
  - 6. Delicadamente, apriete el silenciamiento sobre una superficie de madera para reforzar el carbón suelto.
  - Si nota acumulación excesiva de carbono, consulte con su centro de servicio o distribuidor autorizado Shindaiwa.

Nunca opere la máquina con un silenciamiento o guardachispas dañado o faltante! De lo contrario, puede ser causar daños a sus oídos.

### !ADVERTENCIA!

1. Retire el protector de la bujía.
2. Retire los tornillos de 4 mm de la tapa del motor (los en la parte trasera y dos en la parte delantera de la tapa).
3. Retire los tornillos de 5 mm del silenciamiento. Retire el tornillo inferior levante la tapa del motor.

Mantenimiento Cada 135-Hours

Asegure de no perforar la tubería de combustible con la punta del gancho cada y se puede dañar fácilmente. de alambre, pues esta linea es del combustible que la unidad de operación suministra o descubre daños o detección posible. Si detecta daños de combustible, reemplace la tubería de combustible por Shindaiwa.

### !PRECAUCION!

- Antes de remontar el filtro, inspecione el filtro y reemplazelo si es necesario.
- Use un gancho de alambre para extraer el filtro de combustible del tanque de combustible. Consulte la figura 30.
- Use un gancho de alambre para extraer el collar del eje del tanque de combustible hasta que la unidad de operación esté lista para ser inspeccionada o reparada por un técnico de servicio.

Filtro de combustible

Mantenimiento Cada 50-Hours

Cada 50 horas de operación (más frecuentemente bajo condiciones sucias o polvorintas):

- Retire el accesorio de correa, el soporte y el collar del eje de la caja de engranajes. Retire el perno de grasa al lado de la caja de engranajes e introduzca nueva grasa en la caja de engranajes hasta que la base de la caja esté lubricante para caja de engranajes Shindaiwa o su equivalente. Consulte la figura 29.
- Limpie la maleza y la suciedad en las alas del cilindro.
- Retire y limpie la tapa del cilindro y el cable de la bujía.
- Retire el collar del eje de la caja de engranajes. Retire el perno de grasa al lado de la caja de engranajes e introduzca nueva grasa en la caja de engranajes hasta que la base de la caja esté lubricante para caja de engranajes Shindaiwa o su equivalente. Consulte la figura 29.

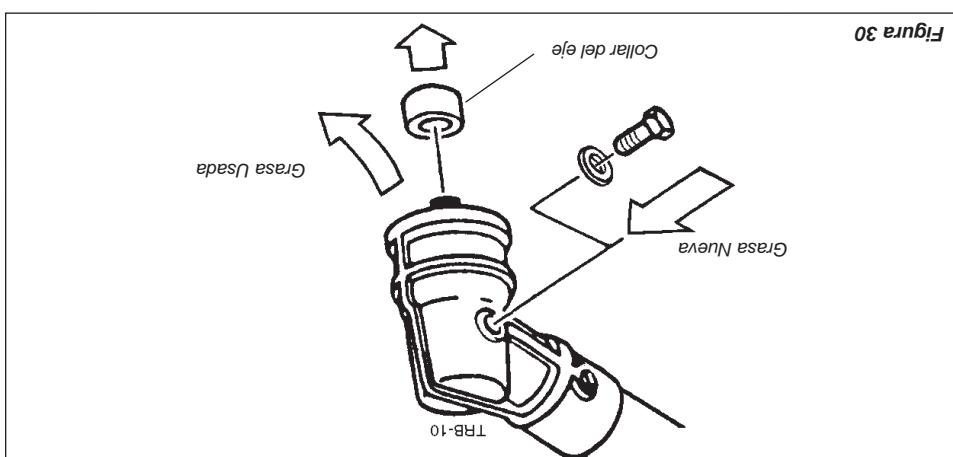


Figure 30

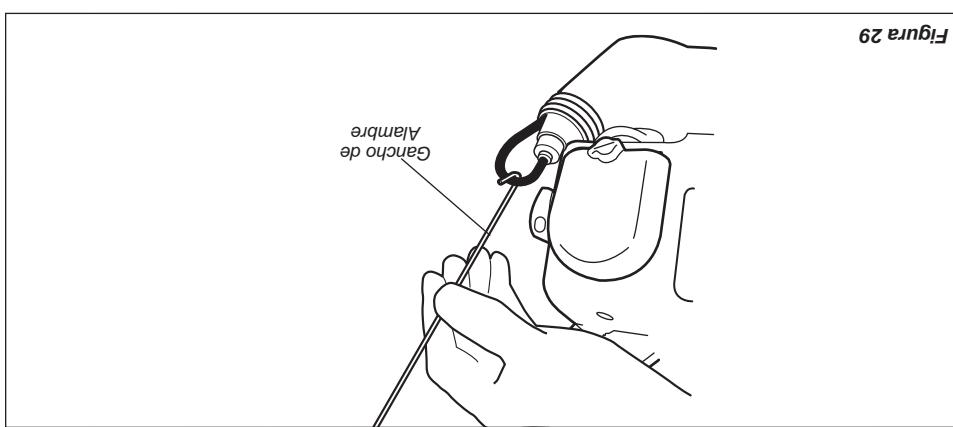


Figure 29

Mantenimiento (continuación)





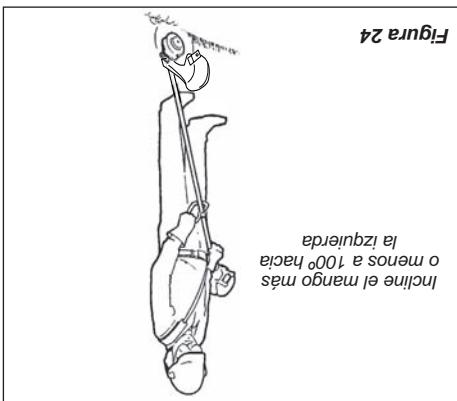


Figura 24

Orillas

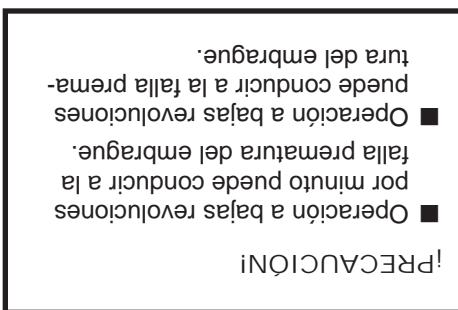
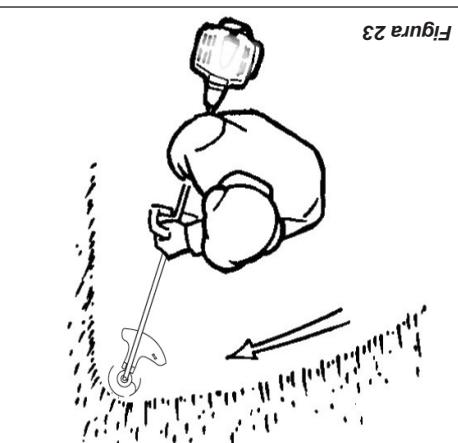


Figura 23



NOTA:  
Paradas con cabezales puden ser  
Herramientas adicionales que en ser  
requeridas para montar los cabezales  
de Línea. Fija o de cuchillas flotantes.  
Velocidades de operación del Motor  
Operan la máquina a aceleración máxima  
cuando corta césped.

!ADVERTENCIA!  
Operación máxima cuando corta césped.  
Opera la máquina a aceleración máxima  
cuando corta césped.

- **Semi-Automatico:** La linea de estilos de cabezal de cortes es indexada cuando el op-erario toca el switch con el cabezal de cortes es durante el uso.
- **Manual:** El operario suelta manu-almente el cable con la podadora almen-te el cabezal de cortes durante el uso.
- **Fijo:** El operario debe apagar el motor y arrancar manualmente nue-vos pedazos de linea de cortes.
- **Pivote:** Este dispositivo, diseñado para cortar mala hierba o maleza ligera, incluye tres cuchillas de nilon atomilladas al cabezal a travيز de pivotes.

Para la operación adecuada, consulte siempre las instrucciones incluidas en el cabezal de corte.

NOTA:

Su podadora Shindaiwa T272X pudea que este equipada con uno de varios modelos de cabezales de corte de Shindaiwa, cada uno con características para aplicaciones específicas y/o requisitos operacionales.

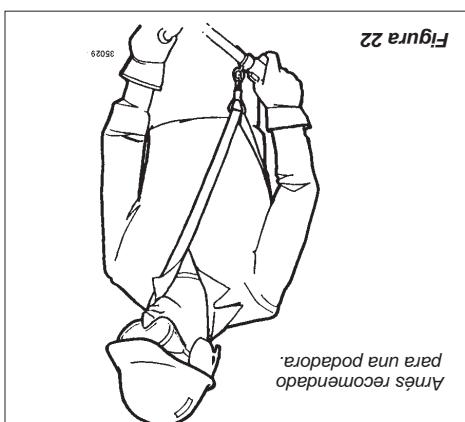


Figure 22

habilita descansos y dormidos de acuerdo a las necesidades de los trabajadores. Los trabajos de los hombres y que la mayoría de los trabajadores de los hogares y establecimientos de servicios y comercio deben ser realizados en horarios de acuerdo con las necesidades de los trabajadores. Los trabajos de los trabajadores de los hogares y establecimientos de servicios y comercio deben ser realizados en horarios de acuerdo con las necesidades de los trabajadores.

!IMPOR|AN|E!

Síempre use un arnés cuando opera esta unidad con una cuchilla. Unarnos es también recomendado cuando use cable de nylon.

**NUNCA** permite que el motor funcione a altas revoluciones sin carga. De lo contrario, podría dañar el motor.

**NUNCA** use la máquina con sujetadores de dientes. **NUNCA** use la máquina con sujetadores o soportes de accesorios desgastados o dañados.

**NUNCA** corte con cuchillas desafiladas. De lo contrario, aumentaría el riesgo de rebote de la cuchilla y también puede causar daño a su equipo.

**SIMPRE** revise el motor inmediatamente y revise en busca de daños si golpea un objeto extraño o si la unidad se ensorde.

**SIMPRE** pare el motor cuando oprime el cable de freno y nuevo y pruebe.

**SIMPRE** cerciórese de que el cable de freno esté proporcionalmente instalado vibrando. Si no golpea el motor cuando oprime el cable de freno, reemplace el cable con uno útil.

**NUNCA** use un accesorio de cortar rajado firmemente apretado antes de usar.

**SIMPRE** cerciórese de que el accesorio de cortar esté proporcionalmente instalado vibrando, o de que el accesorio de cortar esté apretado antes de usar.

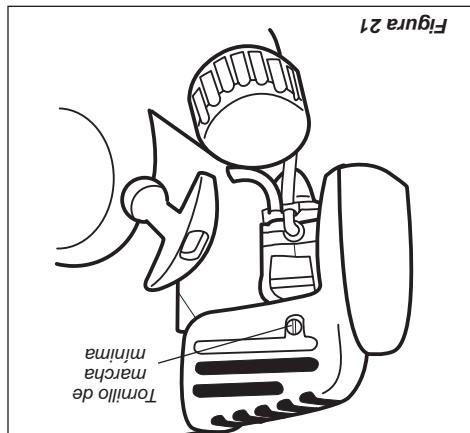
**NUNCA** opere la máquina sin el protector del accesorio de cortar o sin el protector de la mano.

Los ajustes de mezcla del carburador fijados en la fábrica y no pueden ser cambiados en el campo.

Para máquinas anti-emisiones son preferibles las máquinas anti-emisiones que tienen un sistema de mezcla de carburador.

**NOTA:**

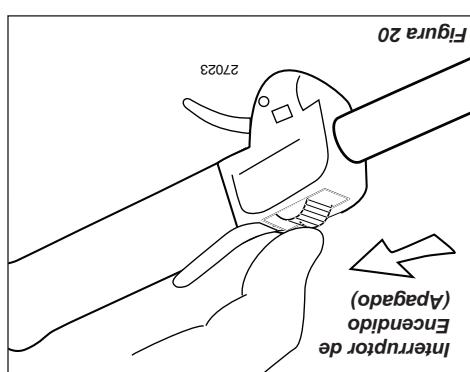
3. Si tiene un tacómetro disponible, la máquina mínima debe ajustarse a 3,000 ( $\pm 250$ ) rpm (min $^{-1}$ ).



**Figura 21**

relaj. Consulte la Figura 21.

en el sentido contrario a las agujas del tornillo de ajuste de marcha mínima reduzca la marcha mínima, girando el tornillo de ajuste de marcha máxima en el sentido contrario a las agujas del tornillo de ajuste de marcha mínima libere el acceso al motor.



Ajuste de Marcha Mínima del Motor

Ponga el motor en marcha mínima por tres minutos antes de apagarlo. Luego deseche el interruptor de ignición a la posición "O" (motor apagado). Consulte la Figura 20.

Parada del Motor

Para el motor en marcha mínima por tres minutos antes de apagarlo, ponga deseche el interruptor de ignición a la posición "O" (motor apagado). Consulte la Figura 20.

**ADVERTENCIA!**

El accesorio de cortar NUNCA debe girar en velocidades mínimas! Si la marcha mínima no puede ser ajustada por el procedimiento descrito arriba, libere el acceso al motor. Deje la máquina en el suelo y encienda el motor. Coloque la máquina en el suelo y encienda el motor. Deje la máquina durante 2 ó 3 minutos hasta que caliente.

**ADVERTENCIA!**

El accesorio de cortar NUNCA debe girar en velocidades mínimas! Si la marcha mínima no puede ser ajustada por el procedimiento descrito arriba, libere el acceso al motor. Deje la máquina en el suelo y encienda el motor. Coloque la máquina en el suelo y encienda el motor. Deje la máquina durante 2 ó 3 minutos hasta que caliente.

**PROTEGERSE!**

El protector del accesorio de cortar no garantiza protección contra rebotes. USE SIMPRE DEBE



IMPORTE!

|  |  |
|--|--|
| Ejemplios de Cantidades de mezcla a proporción de 50:1 | Gasolina Mezclar para motores de 2 tiempos |
| 2,5 - 1  | 50 ml                                      |
| 5 - 1  | 100 ml                                     |
| 10 - 1   | 200 ml                                     |
| 20 - 1   | 400 ml                                     |

PRECAUCIÓN!

Este motor essta diseado solamente para funcionar con una mezcla de gasolina sin plomo y aceite 50:1 de mezclar para motores de 2 tiempos. ISO-L-EGD o JASO FC. El uso de aceites de mezclar no autorizados puede conducir a excesos de depositos de carbono.

## Mezcla de Combustible

contenga más de 10% de alcohol por volumen! Algunas gasolinas contienen alcohol como un oxigenante. Combinables oxigenados pueden aumentar la temperatura del motor durante su funcionamiento. Bajo ciertas condiciones, combustible con alcohol puede reducir la calidad lubricante de algunos aceites de mezcla. Aceites genéricos y algunos aceites que no sean para el uso en motores C4 de alto rendimiento, y no deben ser usados en su motor Shindaiwa!

PRECAUCIÓN!

alcohol puede reducir la calidad del mezcal. Cante de aguas aceites genéricos y alguidas aceites para motores fúera de borda pudea que no sean para el uso en motores de C4 de alto rendimiento, y no deben ser usados en su motor Shindawa!

ADVERTISING  
DEPARTMENT  
Disminuya

ADVERTENCIA! Disminuya el riesgo de incendios!

ADVERTENCIA

Melzcle solamente el combustible necesario  
tio para uso inmediato! De ser necesario  
lumacnear el combustible por mas de  
80 dias, y si no se esta usando acete  
con estabilizador de combustible,  
autonces el combustible debe ser tratado  
otimero con un estabilizador como por  
ejemplo Stabili™.

---

El Aceite Shimadawa ONE es un aceite  
egistrado de JASO FC clasificado y tam-  
bién cumple o excede los requisitos de  
endimiento de ISO-L-EGD. Shimadawa

One es recomendado para el uso en todo  
os motores Shimadawa de baja emisión.

Shimadawa One también incluye el estabi-  
lizador de combustible.

1. Reemplazar la tapa de combustible por otra.

2. Posicionar la magnina sobre una superficie plana y nivelada.

3. Retirar completamente el tapón de combustible.

4. Colocar la magnina en la boca del tanque con combustible.

5. Apretar firmemente.

## Llenando el Tanque de Combustible

## Monte la Cuchilla de Cortar

Ponga la T72TX de cabezal, de tal forma que el perno del eje de la caja de engranajes esté cara arriba el perno y sobre él se encuentre el protector del perno del eje.

1. Alinee la muñeca en el Soporte "A". Consulte la figura 12.

2. Deslice el retén de seguridada sobre el eje de la caja de engranajes.

3. Encuje la cuchilla sobre el retén de seguridada y fijela con la tuerca hexagonal.

**!PRECAUCIÓN!** Instale el disco de tal manera que su superficie impresa sea visible al operador cuando la unidad esté en la posición normal de operación.

**!ADVERTENCIA!** El disco debe encajar en forma plana contra el borde del sujetador.

Cuando instale clavos, puede que sea necesario retirar temporalmente el retén de seguridada.

4. Asegure el disco en su lugar centralizado. Consulte la figura 14.

El rebordar en el sujetador B debe rodar ambos sujetadores deban estar planos completamente el retén de seguridada, y contra la superficie del disco.

## !IMPORANTE!

**!ADVERTENCIA!** Nunca opere la MAQUINA sin el retén de seguridada instalado.

6. Instale el protector del perno y luego el perno de retención de la cuchilla. Usando la llave de bujía/desatornillador combinado, apriete el perno firmemente en dirección contraria a las agujas del reloj.

7. Retire la llave hexagonal.

La T27X debe estar sobre una cuchilla plenamente ensamblada y lista para ser usada con una cuchilla.

Consulte la figura 15. El rebordar en el eje de salida tiene que estar completamente cubierto completamente el perno de retención de la cuchilla.

8. Instale el sujetador B en el eje de salida.

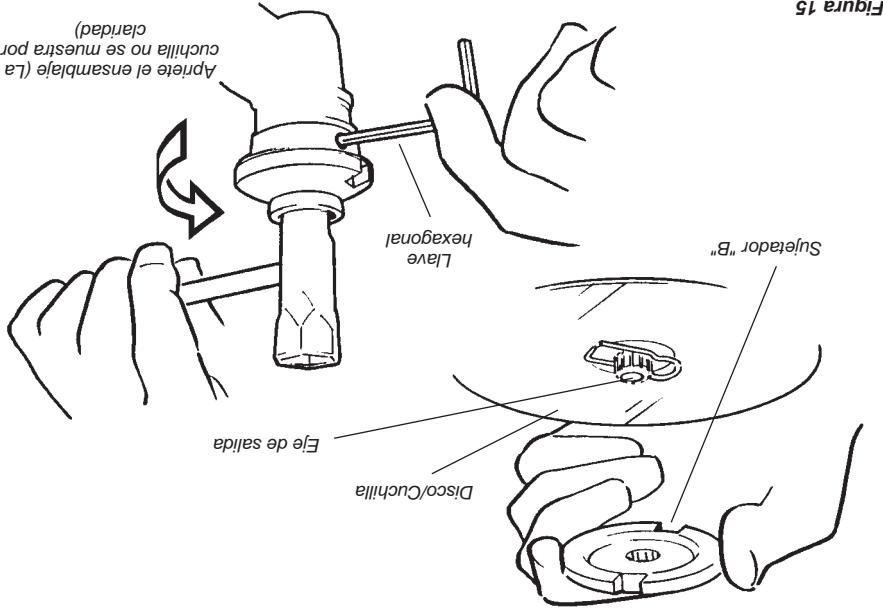


Figura 14

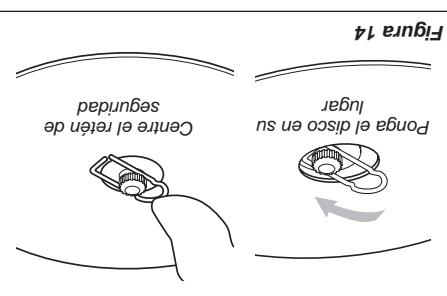


Figura 12

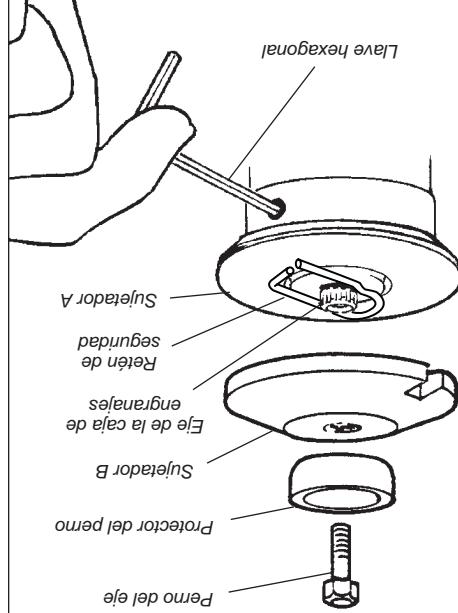
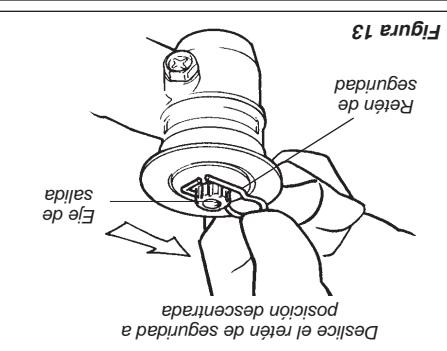
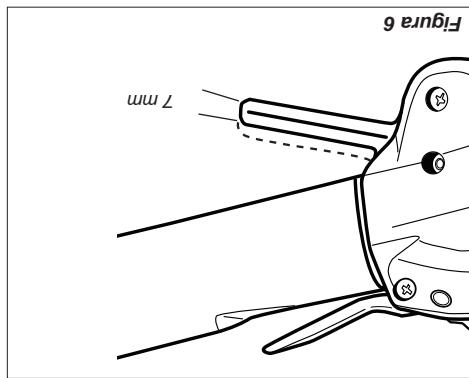
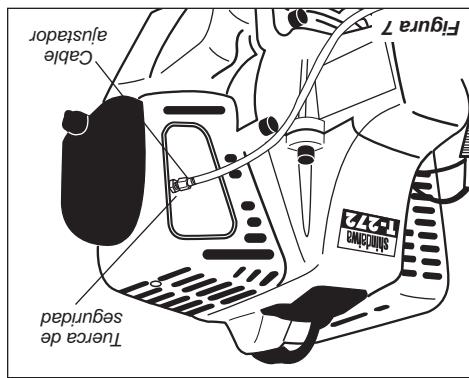


Figura 13



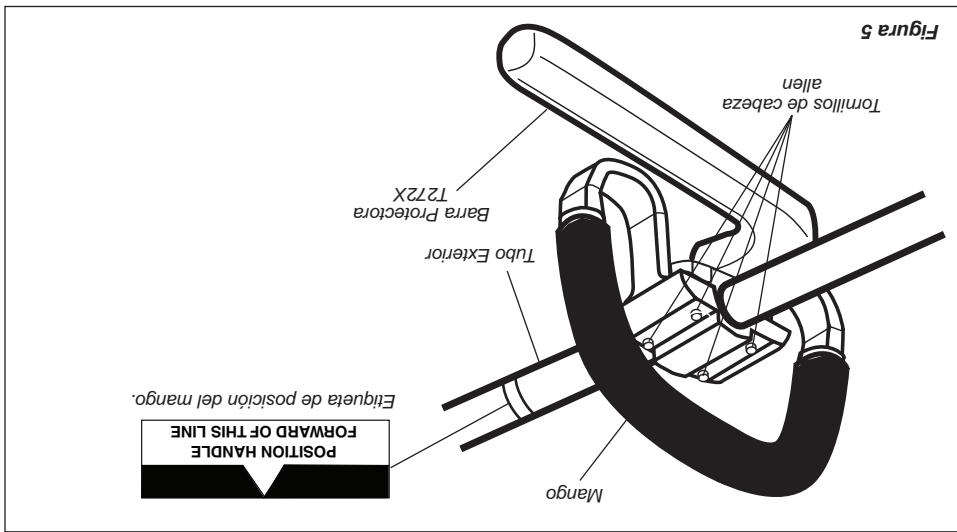


- Importante!**
- Está unida la vena completa mente en - same - blada con la excepción del accesorio de cortar y el protector del accesorio de cortar.
- Protector del Accesorio de Corte
- Accesorio de corte
- Caja conteniendo el soporte y utensilios de metal para montar el protector del accesorio de corte, este manual del propietario/oprador juega de herramientas para mantenerlo limpia. Las cajas de herramientas varían por modelo y pueden incluir una llave hexagonal, llave busija y destornillador, y una llave inglesa.
- Ensamblaje del motor y eje
- Antes de ensamblar, cerciorarse de que todos los componentes necesarios para armar una máquina completa e inspeccione la unidad y componentes en busca de daños.
- Mangos T272/T272X**
- El mango está adjunto al tubo exterior en la T272X.
1. Afloje los tornillos de cabeza en el mango. Consulte la figura 5.
2. Posicione el mango hacia adelante a la allen en forma diagonal o cruzada.
3. Asegure el mango ajustando alternadamente los tornillos de cabeza a 10 pulsadas más allá de la posición más cómoda para el operador (usualmente a 10 pulsadas más allá de la allen en el mango). Consulte la figura 5.
- Para Ajustar el Mango.**



Ajuste de la Holgura de la Palanca del Acelerador

- La holgura del gatillo debe ser aproximadamente de 9/32 pulgadas (7 mm). Consulte la figura 7.
1. Afloje la tuerca de seguridad en el cable ajustador. Consulte la figura 6.
  2. Gire el cable ajustador hacia dentro continuación.
  3. Apriete las tuercas de seguridad.
- Obtener la holgura apropiada 9/32 pulgadas (7 mm). Consulte la figura 7.



- El mango está adjunto al tubo exterior en la T272X.
1. Afloje los tornillos de cabeza en el mango. Consulte la figura 5.
2. Posicione el mango hacia adelante a la allen en el mango. Consulte la figura 5.
3. Asegure el mango ajustando alternadamente los tornillos de cabeza a 10 pulsadas más allá de la allen en forma diagonal o cruzada.
- Para Ajustar el Mango.**

Ajuste de la holgura de la palanca del acelerador

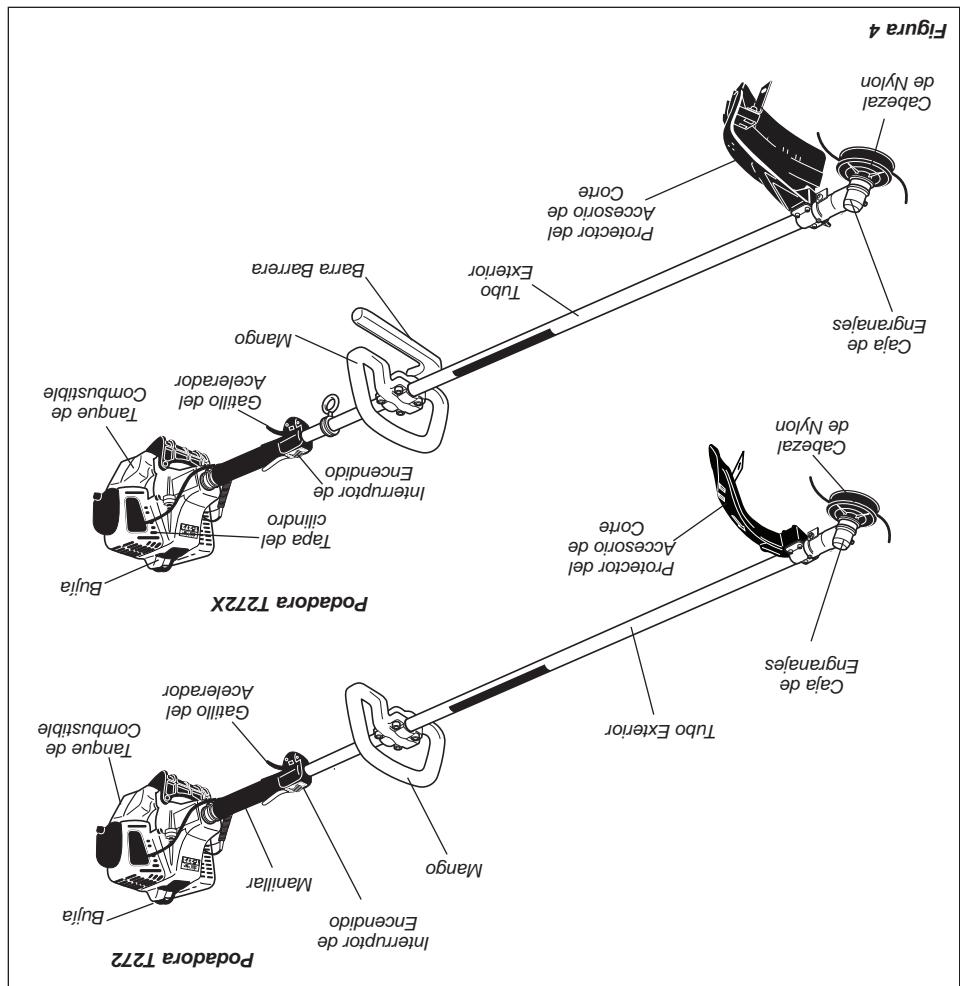
- Los términos "izquierda", "mano derecha", y "LH"; "derecha", "y "traser", miden direcciones desde el punto de vista del operador durante la operación normal de este producto.

- Antes de Ensamblar**
- Está unida la vena completa mente en - same - blada con la excepción del accesorio de cortar y el protector del accesorio de cortar.
- Accesorio de cortar**
- Cortar y el protector del accesorio de cortar.
- Caja conteniendo el soporte y utensilios de metal para montar el protector del accesorio de corte, este manual del propietario/oprador juega de herramientas para mantenerlo limpia. Las cajas de herramientas varían por modelo y pueden incluir una llave hexagonal, llave busija y destornillador, y una llave inglesa.**
- Ensamblaje del motor y eje**
- Antes de ensamblar, cerciorarse de que todos los componentes necesarios para armar una máquina completa e inspeccione la unidad y componentes en busca de daños.

Especificaciones sujetas a cambio sin previo aviso.  
\* Shimadawa ONE cumple o excede estas especificaciones y es recomendada para todo los productos de Shimadawa.  
\*\* El cumplimiento de estas especificaciones y es recomendada para el motor, indica el numero de horas de operacion por la cual el motor ha demostrado cumplir con las regulaciones federales de emisiones. Clasegoria C = 50 horas (Moderado), B= 125 horas (Intermedio) y A = 300 horas (Extenido).  
Cuando se cumple una de las especificaciones de emisiones EPA referido en la etiqueta en el motor, indica el numero de horas de operacion por la cual el motor ha demostrado cumplir con las regulaciones federales de emisiones.

|  |   |  |   |
|--|---|--|---|
| Codigoo del Motor  | Motor S27ZE   | Tipo                                       | 2 tiempos, cilindro vertical, enfriado por aire                   |
| Peso sin combusible T27Z2(sin accesorios)                  | 6.7 kg/14.7 libras  | Peso sin combusible T27Z2X(sin accesorios) | 6.7 kg/14.8 libras  |
| Diametro x Carrera   | 34 mm x 30 mm   | Cilindrada                                 | 27.2 cc / 1.7 pulg. Cilíndricas                                   |
| Potencia Máxima  | 1.1 kw/1.4 hp   | RPM Gamma de operación                     | 4,500-9,000 rpm (min.)  |
| Tipo de Transmisión  | Automática, embrague centrífugo con engranajes helicoidales | Combusible/Acción                          | 50:1 con ISO-L-EGD o JASO FC aceite de mezcla de motor 2 tiempos* |
| Capacidad del Tanque de Combustible                        | 670 ml/22.6 onzas   | Tipo de Carburador                         | Wabco, tipo diafragma   |
| Sistema de Encendido                                       | totalmente electrónico controlado por transistor            | Bujiá                                      | Champion CJ8Y   |
| Filtro de Aire   | Elemento no reversible de uso pesado                        | Método de Arriague                         | Retacito  |
| Filtros de Parada  | Interruptor, corredizo de puerta a tierra                   | Mango                                      | T27Z2 barra   |
| Periodo de Cumplimiento con Regulaciones de Emisiones EPA* | Categoría A   | T27Z2X                                     | Mango circular con barra  |

Especificaciones T272X/C272



El Operario Debidamente Equipado

Use un protector auditivo y un casco o sombrero.

Use ropa de talla para proteger su piezas y brazos. Los guantes siempre proveen protección adicional y son altamente recomendados. No use ropa holgada o joyas que pudieran atascares en la maquinaria o en la vegetación. Nunca use pantalones cortos.

*Nunca opere la máquina  
descubiertos o sandalias.  
use zapatos con los dedos  
o zapatos antideslizantes; (botas  
use calzado apropiado (botas  
uso de la máquina  
en todo momento durante  
cuerpo, mantenga su balón  
apropiada y nunca exponga  
Manterse una posición  
cuando se sienta.*

Manterse en una posición de equilibrio, mantenerse su balance en todo momento durante el uso de la maquinaria.

*Siempre cerecioresse de qui  
el protector del acceso si  
de corre este instalado  
correectamente.*

Manténgase alejado de la línea de corte o disco en rotación en todo momento, y nunca levante un accesorio en rotación más arriba de su cintura.

Cuando opere con un disco, cerciórese de que el mangote esté posicionado para proveerle la máxima protección y evitar contacto con el disco.

Siempre opere con ambas manos sujetando el mango firmemente.

empre use un armes cuando  
opere esta unida con una  
cuchilla.

Siempre use protección para los ojos de como lenetes de seguridad para los ojos de objetos lanzados.

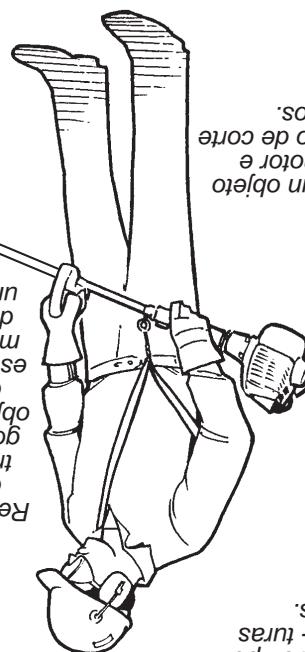
**Figura 1**

**Este Alerta del Área de Trabajo**

Si hace contacto con un objeto sólido, detengá el motor e inspeccione el accesorio de control en busca de daños.

Tenga extremado cuidado al trabajar sobre terrenos resbalosos, especialmente en tiempos de lluvia.

Evite trabajar durante largo tiempo bajo temperaturas extremas.



**Tenga extremado cuidado al trabajar sobre terrenos resbalosos, especialmente de lluvia.**

**Extremas baso tempero- turas**

**Cerciorrese de que los transenmites u observadores estén fuera de la "zona de peligro" de 50 pies usen protección de ojos.**

**Reduzca el riesgo de que alguien golpeeado por un objeto. Asegúrese de que nadie esté dentro de 15 metros (50 pies) de distancia de un acceso en operación.**

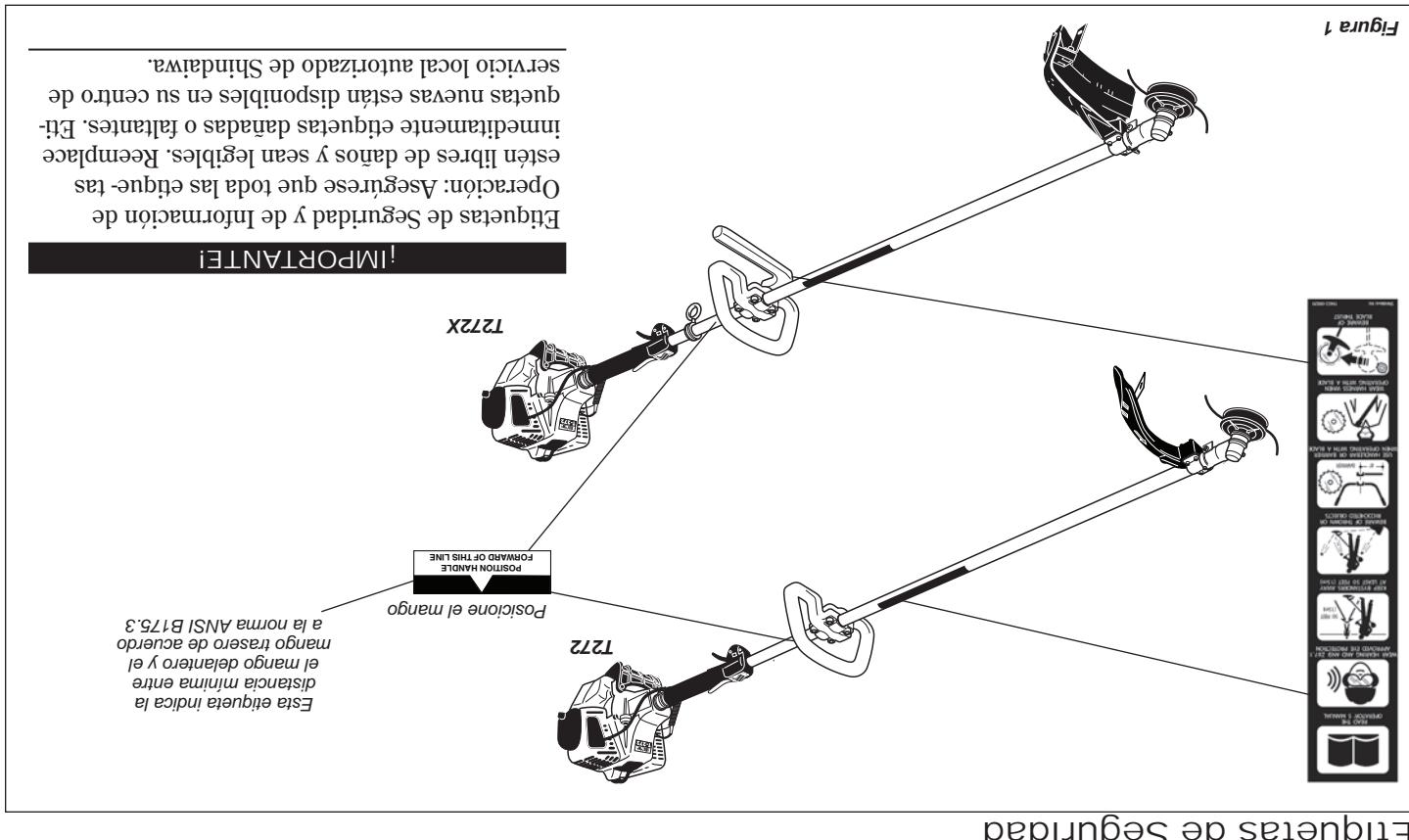
**Este alternador del disco en rotación causará lesiones mortales.**

**Un disco en rotación puede girar hasta 5000 rev/min.**

**Sí hace contacto con un objeto sólido, detenga el motor y busque el acceso de corneadas.**

**Este constanteamente altera de los objetos y despegos que quedan ser en busca de daños.**

**Cuando trabaje en un terreno rocoso o cerca de cables o cercas eléctricas, use extremeo cuidado y evite tocálos con el accesorio de corneadas.**



## Etiquetas de Seguridad

**SOLIMI-NL**, si el diseño se encoda en el disco.

**SIMPRE** mantienga los mangos limpios.  
**SIMPRE** descocete el cable de la  
bujía antes de hacer mantenimiento a la  
máquina.

**SIEMPRE** sujete la m醩quina firme-  
mente con ambas manos y mantenga  
el control en todo momento.

**SIMPRE** mantiene la máquina lo más allá de lo específico para su máquina.

**NUNCA** extienda el cable de nylon  
instaladas incorrectamente.

**SIMPRE** mantiene su área de trabajo libre de basura o objetos que pudieran obstruir contra usted o contra transmisiones. **SIMPRE** use el accesorio de corte apropiado.

**NUNCA** opere la unidad en un espacio cerrado. Cerciorase que siempre haya una ventilación. El humo o gases del escape del motor pueden causar serias

**SIMPRE** use protección para los ojos contra objetos lanzados.

coerte por partes quebradas, faltantes o

Use Buen Juicio  
!ADVERTENCIA!

autofízodos.  
Nunc a installe accesorios no  
!ADVERTENCIA!

Débe de estar físicamente y mentalmente en óptimas condiciones para operar esta máquina con seguridad. Debe de estar físicamente y mentalmente en óptimas condiciones para operar esta máquina con seguridad. ¡ADVERTENCIA! Nunca操ere una máquina sin usar casco y gafas de seguridad. Nunca操ere una máquina sin usar casco y gafas de seguridad.

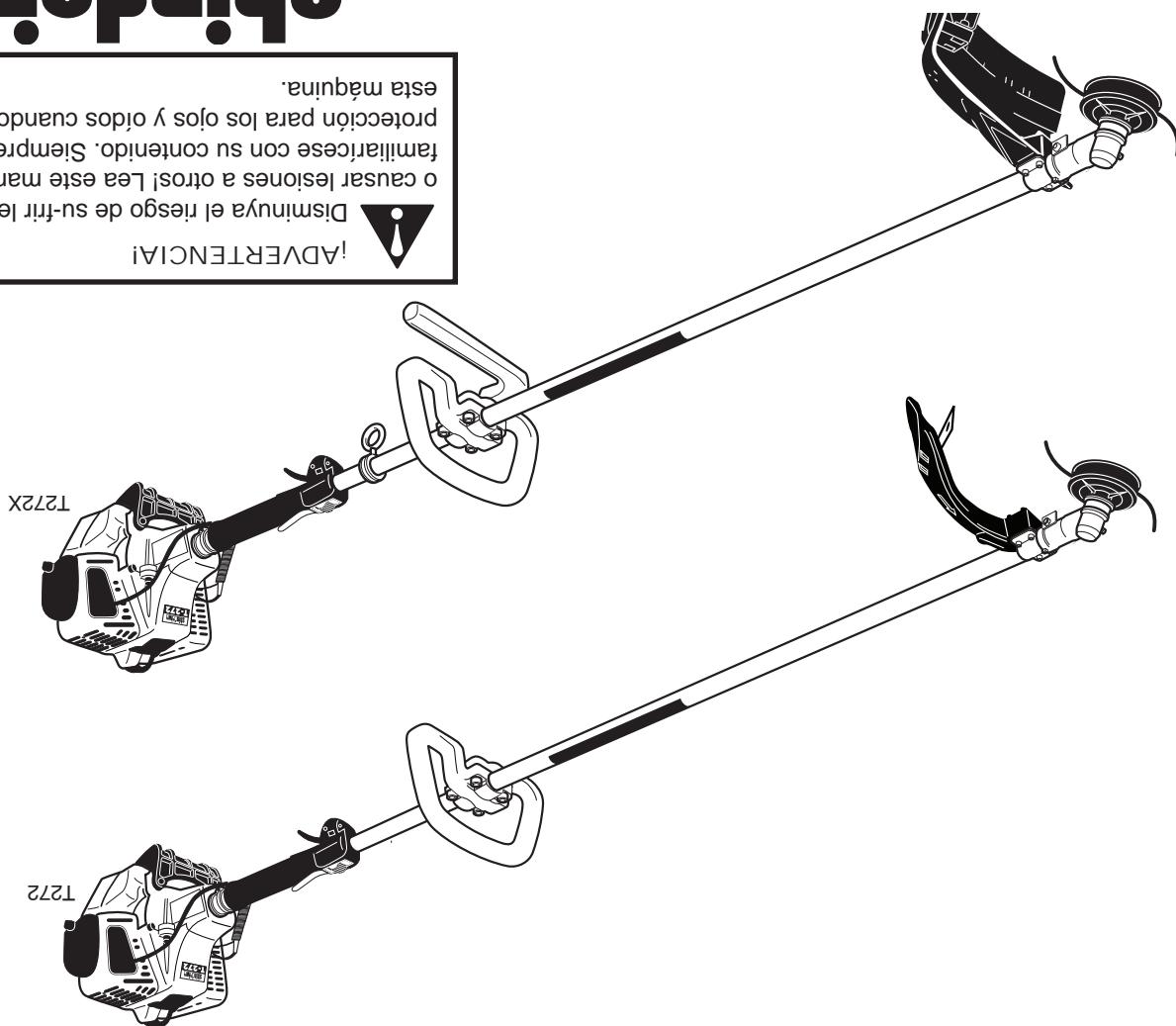
Tra base con cuidado Podaduras y desmalezadoras operan a velocidades altas y pueden causar daños o lesiones severas si son mal usadas o abusadas. Nunca permita que una persona sin entrenamiento o instrucción sobre este tema



# shindaiwa®

Dismiuya el riesgo de sufrir lesiones familiares con su contenido. Siempre use protección para los ojos y otros cuando opere esta máquina.

!ADVERTENCIA!



## PODADORA T272X/EVC PODADORA T272/EVC

MANUAL DEL PROPIETARIO/OPERADOR SHINDAIWA

